THE CHEMIST AND DRUGGIST.

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THE NEW SOCIETY AND ITS COMMITTEE.

MANY sanguine persons, after reading the report of a meeting connected with the United Society which appeared in nearly all the daily and weekly newspapers a few weeks back,* would conclude that all difficulties in the way of the new Association had been surmounted, and that little more real work remained to be done. The trade, they would think, has evidently been canvassed with success, a large number of adherents have been obtained, a certain set of defined objects have been laid down, a committee has been selected to arrange the necessary details; and nothing is now required but the payment of subscriptions. These are the views too often held at this stage of new societies, and this is the paralysing action which too often follows upon such views. The ground has certainly been cleared, with little expense, and with no loss of time; and the first stone of the United Society has been publicly laid. Few preliminary meetings have been more numerously attended, more satisfactorily addressed, or watched over by a more influential chairman. Mr. Alderman Dakin presided, and his name is a sufficient guarantee that the meeting had nothing of a hole-and-corner character about it. It was open to all, whether friend or foe; due notice was given to every member of the trade of the place and hour of meeting, and the time was so fixed as to suit the convenience of all. There was not one dissentient voice; not one attempt made to controvert the statements of the different speakers, and the whole meeting was a legitimate unforced success. Why then, our readers will ask, do we not clap our wings, crow out a song of unchecked triumph, and glide on to the next subject? Because we wish to complete our work in a workmanlike way. We say it, in no spirit of boasting,—without the aid of this Journal the Society would never have advanced beyond the talk of a few tea-tables, would never have been moulded into shape, set upon its legs, filled with life, and made to cut its first tooth in such a promising manner. We originated the Society, we laid down the only possible principle upon which it could be formed, and we are anxious that this principle shall not be lost sight of. Broad, liberal, almost universal co-operation on the part of the trade must be the back-bone of the United Society. Its very title advertises its leading object. If this principle is not honestly and logically kept in view, the Society will wither in its youth; if it is kept in view, the Society will grow into a sturdy giant.

The Committee selected (a list of whose names will be soon published) consists of honest, straightforward, working members of the trade, with power to add

* As we do not wish to trespass on the space devoted to original articles, we have published a Supplement, containing a special report of the meeting. See page 69.

to their number. They will do nothing mean, nothing unbusiness-like, nothing hasty and inconsiderate. They know the delicate task they have to perform, and they know that they are no longer mere private individuals. Their names are before the whole trade, their proceedings and resolutions will be reported from time to time, and in proportion as they labour ill or well, sluggishly or energetically, so will they be praised or blamed. Committees, taken generally, have little reputation to lose, and much to gain. Their talk, when placed by the side of their work, is often like Falstaff's sack and bread—the first being out of all proportion to the second. Like Boards, they are very plentiful, but yet difficult to find, and it has been said that they have neither noses to be pulled, nor projections to be kicked.

The Committee of the United Society of Chemists and Druggists (as it is now legally christened) will doubtless act with becoming promptitude and vigour; and set an example to far more distinguished bodies. They start with a large area to deal with, if not a very wealthy one. As the different reports state, there are some 15,000 trading chemists and druggists in the United Kingdom, and counting assistants, this number will be raised to something like 40,000 to 50,000. Every one of these traders, if willing to join the Society, must be admitted, without questioning, according to our guiding principle. There must be no false pride in defining what proposed member is really a chemist and druggist; the purchase and sale of drugs and chemicals, or of anything connected with a chemist and druggist's business, must be ample qualification for membership. This is a broad open Society, not a close borough; and the more it gathers within its walls, the stronger it will become. Chemists and druggists—as we have shown, over and over again—are modified very much by local circumstances. In hundreds of villages, districts of towns, corners of cities—it would be starvation and bankruptcy to sell nothing but medicines. If a locality cannot support a chemist and druggist proper, it must be served by a trader who sustains himself in other ways. The case is exactly similar to that of this Journal. If the chemists and druggists were not able to support it as a special organ, to pay its proprietary for rejecting all advertisements not bearing upon the trade interests of its readers, and for confining its circulation to the trade subscription list, it would drift into other and more universal topics, or, most probably, disappear.

To reject a village chemist because of the accidents of his position, would be an act of cruelty and suicidal folly. The new Society has no claims to existence, unless it acts up to the breadth of its title. The Pharmaceutical combination can do all that the United Society proposes to do, if it is to admit no one but screened members of the trade. The sneer launched against the old Society by the Hon. Mr. Walpole when an act of legislative aggression was being discussed ("You represent a small minority") could be easily repeated. The new Society ought to bear this in mind, and so contrive that when they open their mouths, they may speak with authority for nearly all the trade.

The chief objects of the Society have now passed through the fiery ordeal of discussion, and have been adopted without alteration. The benevolent fund for the assistance of members in sickness, old age, and death, will be for chemists and druggists proper only, but the other avenues of the Association will be open to all. The chemical analyst, the legal adviser, the registry office for businesses, situations and partnerships, the club-room, and the rudimentary school, will be at the service of members; and machinery will exist for combined action to promote early and Sunday closing, to check any oppressive legislative enactment, and to promote the general interests of the trade, such as never had any existence before. A centre of reunion—a basis of operations will have been established, and the Institution will be governed in the representative spirit. Every member will have a vote—a voice

in the management, and what the future of the Society may be will depend upon the majority. The provinces will have their say, as much as the metropolis, and no member, we trust, will neglect to use his privilege. Half the vices of representative government are due to the inertness of the public, and if vestries and parliaments go wrong it is the fault of the drivers. Every member of the United Society of Chemists and Druggists will hold one of the strings which govern their Association, and we hope they will find time to pull them effectively. The pages of this Journal will always be open to keep the members well-informed upon the proceedings of the central body—the heart of the system, and to direct them in the best way when they seem to require direction.

A SLIGHT LANCET CUT.

We admire a journal that does its duty, that knows "its mission," that sticks to its last. We try to do our duty as well as we are able, and to defend the interests of our supporters whenever they require defending. This it is which makes our journal a class organ; and when we have shown fight in what we believe to be a good trade cause, we are rather disappointed if no champion takes up the glove.

We have recently been attacking the medical profession*—not as surgeons, physicians, or legitimate medical advisers; but as dabblers in a trade they know little about (the trade of drug-selling), and dispensers of physic made up by stable-boys. Without any particular class bias we stood up for fair, open, gentlemanly dealing, and for the unchecked liberty of asking and answering questions, even upon such supposed recondite subjects as bodily ailments. We spoke in terms of well-merited contempt of all petty informing and *espionage;* and we stood up for free-trade, and against class legislation.

In doing this we trod upon the corns of "doctors" generally,—from the physician of acknowledged ability in Saville-row, down to the electro-plated practitioner with the German degree, purchased for a few pounds from a Jew agent. Having done this, we fully expected a reply from one or the other of the many medical organs; and we are glad to see the faithful *Lancet* first in the field, attempting to defend its friends and supporters.

The article in the number of our contemporary for February 9th, 1861, is made up to such an extent of our own paragraphs, that we find it difficult to extract the portions intended to crush us. We are, first of all, accused of being the mouth-piece of the "United Society of Chemists and Druggists;" and as we see no disgrace in this, we admit that we are. We must be the mouth-piece of somebody or something, and why not of the United Chemists? If the *Lancet* were not the mouth-piece of the United Doctors, it would hardly take up the cudgels in the present fight.

At the next step we come upon several assumptions. It is assumed that we are opposed to the members of the Pharmaceutical Society (which we are not), and that we hate the whole medical profession (which we do not). We are strong supporters of the Pharmaceutical Society, even when we advocate the formation of the new Association; and we have no desire to interfere with the practice and profits of doctors. We wish every man to do the best he can for himself, without any aid from Government. We only attack the medical profession, because, at present, to some extent, they are a law-protected class, and they seem inclined to use their privileges to the injury of their neighbours. The liberty of giving "advice over

* See article, "The Medical Inquisition."—*Chemist and Druggist*, January 15, 1861.

the druggist's counter,"—as the *Lancet* phrases it,—involves a great principle. If it is effectually destroyed, the thin end of the wedge will be driven in, and aggressive legislation will be encouraged to proceed further. In arguing upon these grounds we are looking far beyond the narrow limits of any particular trade.

Our contemporary speaks of *all* druggists as if they thrust themselves forward to give medical advice, although it must be evident that much time and money would be lost by such a course. To talk to a man for half an hour about symptoms of illness, real or fancied, for the sake of selling six-pennyworth of medicine, is not likely to lead to fortune either in town or country. Our contemporary also speaks of the druggists as wholesale medical pretenders, forgetting how many doctors come under this title. If quacks are to be numbered in the next census, we will back the medical profession against all England.

When a leader-writer is at a loss for argument, facts, or sense, his best course is to fly to a well-worn Latin phrase. It rings in the ear, and supplies the place of reasoning. Our contemporary seems to be aware of this; for the article winds up with *ne sutor ultra crepidam*. We are ready to accept this advice upon mutual terms, if the representative of the medical profession is willing. There shall be no more "*advice over the counter*," if there is no more *counter under the advice*. Let the doctor—the "sham-retailer" of drugs and chemicals—stick to his last: feel the pulse of his patients, write his prescriptions, and have them properly made up out of a well-kept stock, and not compounded in a stable by grooms and errand-boys out of stale, ill-selected materials. Our contemporary thinks that, by checking "advice over the counter," "many lives will be saved, and numerous inquests avoided." We can hardly agree with this statement, and we will state why. The deaths throughout England every year caused by bad medical advice, medical quackery, and clumsy surgical operations, compared with the deaths resulting from bad dispensing on the part of chemists and druggists, are in the proportion of 100,000 to 1. The inquests in England, where doctors stand as man-slaughterers, are fifty times more numerous than those where chemists and druggists—advisers over the counter—stand in the same position.

Physicians and their Drugs.—The following passage is extracted from the number of the *Lancet* which contains the leader referred to in the above article:—"The higher class of surgeons and physicians in this country, and yet more in other countries where the art of prescribing and the practice of dispensing are completely separated, have been often, and not unfairly, charged with a want of practical acquaintance with the drugs which they handle."

Therapeutical action of Solanine and Dulcamara.—Prof. Caylus, of Leipzig, has undertaken a series of experiments to ascertain the exact effects of dulcamara, and its active principle, solanine. These substances belong to the class of narcotico-acids, as they produce a paralysing action on the medulla oblongata, and an exciting action on the nerves. They cause death by producing paralysis of the respiratory muscular apparatus, by an action analogous to that of coneine and nicotine. They possess a therapeutical action in spasms and irritable conditions of the respiratory organs, in simple spasmodic cough, hooping cough, and spasmodic asthma. Their therapeutical action in certain morbid conditions of the blood—as gout, rheumatism, constitutional syphilis, and perhaps in certain chronic diseases of the skin—may be due to their augmenting the excretion by the kidneys, of the constituent parts of the blood which have undergone combustion, and not to the excitement of cutaneous activity. Solanine and dulcamara may be given without danger in inflammatory conditions of the stomach and the intestinal tube, as they exercise no action on those organs. Inflammation of the respiratory organs presents no contra-indication to the employment of solanine and dulcamara, but they are contra-indicated in inflammation of the kidneys. The medium dose of solanine for an adult is from one to five centigrammes of acetate of solanine, a substance which M. Caylus prefers to the pure alkaloid, in consequence of its solubility. The most suitable form of administration is in pills, the solution of the salts of solanine having a very disagreeable taste. The extract obtained from alcohol, and then washed with water to remove the alcohol, is preferable to the watery extract generally employed.—*Presse Medicale Belge.*

QUANTITATIVE ANALYSIS.

BY DR. HENRY M. NOAD, F.R.S.

ALUMINA; ANALYSIS OF LIMESTONES AND CLAYS.

Alumina is precipitated from its solutions by *slight* excess of ammonia, or of carbonate of ammonia, sal ammoniac having been previously added, and a gentle heat applied. The precipitate, which is very bulky, requires long-continued washing with hot water; its ignition must be carefully performed, as it is apt to spirt. The earth shrinks very much in drying. Alumina is invariably weighed in the form of the pure earth, the composition of which is—

Two equivalents of aluminium	27·26	53·19
Three do. of oxygen	24·06	46·81
One equivalent of alumina	51·26	100·00

Analysis of limestones.—The importance of these minerals in agriculture and in the arts, renders the determination of their general composition a matter of frequent occurrence to the practical chemist. The following is the method of procedure. Dissolve 100 grains of the specimen (which should be well selected and averaged) in hydrochloric acid, and evaporate the solution to dryness on the sand-bath; moisten the residue with hydrochloric acid, let it stand for half an hour, then add boiling distilled water, and filter through a filter which has been previously dried at 212° in the water oven* and weighed; wash on the filter till the wash water passes through tasteless, then return the filter with its contents to the water oven, and dry until it ceases to lose weight. The increase in weight is the *silicic acid, sand, insoluble clay,* and (perhaps also) *organic matter* in 100 grains of the limestone. It is rarely necessary to do more than determine the total amount of silicic acid in this insoluble residue, which is done by fusing it in a platinum crucible with four times its weight of mixed carbonates of potassa and soda, and evaporating the fused mass carefully to dryness with excess of hydrochloric acid; when perfectly dry it is allowed to cool, then moistened with strong hydrochloric and a few drops of nitric acid, boiled up with water, and filtered, the residue on the filter is pure *silicic acid;* it is well washed with boiling distilled water, dried, and ignited in a platinum crucible. The crucible should be weighed with its cover on, as silicic acid is apt to take water from the air. In the great majority of cases it is sufficient to determine the *weight* only of the ignited residue of a limestone, insoluble in hydrochloric acid, without submitting it to analysis. The filtrate from the insoluble residue with the washings is divided accurately into three equal parts, each part representing one-third of 100 grains of the limestone. One part is mixed in a flask with a little concentrated nitric acid or chlorine water, to peroxidize any *iron* that may be present, heated nearly to boiling for some time, and then allowed to cool; it is now transferred to a beaker or other convenient vessel that admits of being covered with a glass plate, and ammonia added in slight excess, the precipitate which falls is *alumina* (with a little silicic acid) and perhaps *sesquioxide of iron* and *oxide of manganese;* it is collected on a filter, washed, dried, ignited, and weighed. Except for scientific (geological) objects, it is never necessary to submit this precipitate to analysis. In the filtrate from the precipitate by ammonia, the *lime* and *magnesia* are determined as directed, page 7. In order to determine the total amount of carbonic acid, the excellent method proposed by Schaffgottsch may be followed. A known weight of the limestone is heated intensely to perfect fusion in a platinum crucible, with four times its weight of recently fused *borax,* the loss of weight when cold indicates the amount of carbonic acid, *plus* the *water,* which the limestone may contain, and which is determined with sufficient accuracy for all practical purposes by keeping 100 grains of the mineral in Taylor's air-bath,† heated to 300°, until its weight is perfectly constant. It will be understood that for mineralogical purposes the residue insoluble in hydrochloric acid and the precipitate by ammonia must be submitted to minute analysis. If the limestone is intended to be used as a flux (in the iron blast furnace, for example) it may be necessary to examine the residue insoluble in hydrochloric acid for *pyrites;* a portion of it should be fused with a mixture of carbonate of soda and nitrate of potash, the fused mass digested with dilute hydrochloric acid, and evaporated to perfect dryness, the dry

* Vol. I. p. 127, Fig. 7. † Vol. I. p. 127, Fig. 8.

residue re-digested with dilute hydrochloric acid, filtered and washed, the sulphur in the pyrites is hereby converted into sulphuric acid, which passes into the filtrate, and is precipitated by chloride of barium: every 100 parts of the washed and ignited sulphate of baryta thus produced represents 13·7 parts of sulphur.

Analysis of clays.—For technical purposes much information respecting the value of a sample of clay is derived from a *mechanical* analysis of it; by this it is learnt what are its *compound* parts; how much is *sand*, and how much clay proper; we shall take occasion to point out a convenient method of effecting this, when, in a future paper, we are occupied with the *analysis of soils*. We now describe the method of *chemical analysis*, which, after much experience, we have found to give good results.

First, the amount of moisture is determined by drying 100 grains of the sample, finely powdered, in the water-oven, till it ceases to lose weight, and then the quantity of combined water, by long continued ignition, in a platinum crucible.

Second, 30 grains of the sample are digested for many hours in a platinum crucible, with concentrated sulphuric acid; the best method of doing this is to invert a funnel over the mouth of the crucible, and place it on a sand bath underneath a hood. I employ about one fluid ounce of sulphuric acid, and after the digestion has gone on for four or five hours, the funnel is removed, and the greater part of the acid expelled by evaporation; distilled water is now added, and the insoluble residue filtered off; this consists of *silicic acid* (which was probably present in the clay in the form of a hydrate) and *sand*. It is boiled two or three times with a strong solution of carbonate of soda, which dissolves the silicic acid, and leaves the sand; the alkaline solution filtered off from the sand is super-saturated with hydrochloric acid, and evaporated to perfect dryness: when cold it is washed on to a filter, and there treated with repeated affusions of boiling water, after which it is dried, ignited, and weighed in a covered platinum crucible; the weight of the sand is also determined after ignition.

The filtrate from the sand and silicic acid is warmed with a little nitric acid, and then precipitated by slight excess of pure ammonia; it is filtered as rapidly as possible, and the precipitate on the filter, consisting of *alumina* and *peroxide* of iron, is well washed with hot water; the filtrate may contain *lime* and *magnesia*, which are determined as directed, p. 7. The precipitate of alumina and oxide of iron is dissolved off the filter by hot hydrochloric acid, the filter being thoroughly washed; the filtrate and washings being thoroughly mixed, are accurately divided into two equal parts, either by weighing or by measuring, the former being the most accurate; one half is precipitated by slight excess of ammonia filtered, and the precipitate washed, dried, ignited, and weighed, the weight being calculated for the whole quantity of solution, we thus obtain the total weight of *alumina* and *oxide of iron;* the other half of the solution is nearly neutralized with pure carbonate of soda, and then boiled in a silver or porcelain dish with pure caustic potash; this is repeated twice or even three times, the *alumina* is hereby dissolved, and the *sesquioxide of iron* (with perhaps a trace of oxide of manganese) left behind. This insoluble residue is washed with boiling water, re-dissolved in hydrochoric acid, precipitated by ammonia, washed, dried, ignited, and weighed; its weight being calculated for the whole quantity of solution, gives the amount of sesquioxide of iron, with sufficient accuracy for most practical purposes; but it is not exact, it being almost impossible to accomplish the perfect separation of *alumina* from *sesquioxide of iron* by caustic potash. In cases where great accuracy is required, the following elegant method of Rivot may be adopted. The mixed precipitate of alumina and sesquioxide of iron is ignited, and accurately weighed; it is placed in a small porcelain boat, and heated to redness, in a porcelain tube, through which a stream of dry hydrogen gas is passing; the oxide of iron is hereby reduced to the metallic state, the alumina remaining unaltered. When no more water is formed, the reduction of the iron is known to be complete, and the tube is allowed to get cold, the current of hydrogen continuing to pass through it; the little boat is then removed, and its contents digested in very dilute nitric acid, which dissolves only the iron, from which it is afterwards precipitated as sesquioxide by means of ammonia.

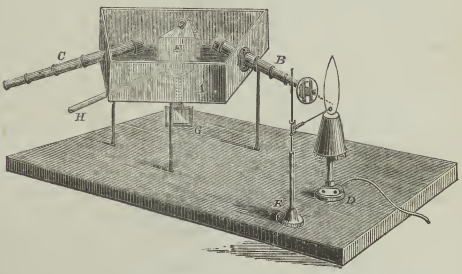
It is almost needless to observe that this troublesome process is only to be followed in cases where extreme accuracy is essential, as in the analysis of minerals for mineralogical purposes.

[Our next paper will be devoted to the quantitative determination of *Iron*, and the analysis of *Iron Ores*.]

PROFESSORS BUNSEN AND KIRCHHOFF'S METHOD OF CHEMICAL ANALYSIS BY SPECTRUM OBSERVATIONS.

This exquisite method of qualitative analysis is founded on the power possessed by many substances of developing peculiar bright lines in the spectrum of a flame in which they are introduced. The bright lines produced in this manner show themselves most plainly when the temperature of the flame is highest and its illuminating power least: hence Bunsen's gas-burner, which gives a flame of very high temperature and very slight luminosity, is well adapted for experiments on the bright lines of the flame-spectra produced as above described.

The apparatus employed by Messrs. Kirchhoff's and Bunsen in their spectrum observations is thus represented and described in *Poggendorff's Annalen* (Bd. cx. § 161):—



A is a box blackened on the inside, having its horizontal section in the form of a trapezium, and resting on three feet; the two inclined sides of the box, which are placed at an angle of about 58° from each other, carry the two small telescopes B and C. The eye-piece of the first telescope is removed, and in its place is inserted a plate, in which a slit made by two brass knife-edges is so arranged that it coincides with the focus of the object-glass. The gas-lamp D stands before the slit in such a position that the mouth of the flame is in a straight line with the axis of the telescope B. Somewhat lower than the point at which the axis of the tube produced meets the mouth, the end of a fine platinum wire bent round to a hook is placed in the flame. The platinum wire is supported in this position by a small holder E, and on to the hook is melted a globule of the dried chloride which it is required to examine. Between the object-glasses of the telescopes B and C is placed a hollow prism F, filled with bisulphide of carbon, and having a refracting angle of 60°; the prism rests upon a brass plate, moveable about a vertical axis. The axis carries on its lower part the mirror G, and above that the arm H, which serves as a handle for turning the prism and mirror. A small telescope placed some way off is directed towards the mirror, and through this telescope an image of a horizontal scale fixed at some distance from the mirror is observed. By turning the prism round every colour of the spectrum may be made to move past the vertical wire of the telescope C, and any required position of the spectrum thus brought to coincide with the vertical line. Each particular portion of the spectrum thus corresponds to a certain point on the scale. If the luminosity of the spectrum is very small, the wire of the telescope C may be illuminated by means of a lens, which throws a portion of the rays from a lamp through a small opening in the side of the tube of the telescope C.

From a long series of preliminary experiments with this apparatus, the authors satisfied themselves that the appearance of certain bright lines in the spectra may be regarded as absolute proof of the presence in the flame of certain metals, and that they serve as reactions, by means of which these bodies may be recognized with more certainty, greater quickness, and in far smaller quantitites, than can be done by help of any other known analytical method, no matter what may be the nature of the body with which the metals are combined.

The wonderful delicacy of the spectrum-reaction of *sodium* is evinced by the following experiment, which the writer had the good fortune to witness in the laboratory of Professor Bunsen in Heidelberg. In a far corner of the experiment room, the capacity of which is about 60 cubic metres (one cubic metre = 35·3 cubic feet), was burnt a mixture of 3 milligrames

(0·0462 gr.) of chlorate of sodium with milk sugar, whilst the non-luminous flame of the lamp was observed through the slit of the telescope. Within a few minutes the flame, which gradually became pale and yellow, gave a distinct yellow sodium line, coincident in the solar spectrum with Fraunhofer's dark line D, lasting for about ten minutes, and then entirely disappearing. From the weight of the sodium salt burnt, and the capacity of the room, it was calculated that in one part by weight of air, there was suspended less than $\frac{1}{3000000}$ of a part of soda smoke. As the reaction can be quite easily observed in one second, and as in this time the quantity of air which is heated to ignition by the flame could be calculated from the rate of issue, and from the composition of the gases of the flame, the surprising result came out that the eye is able to detect with the greatest ease quantities of sodium salt less than $\frac{1}{3000000}$ of a milligramme in weight. The reaction of *potassium* is not nearly so delicate; the spectrum contains only two characteristic lines, one in the outermost *red*, and the other far in the *violet* ray of the solar spectrum—points at which the eye ceases to be sensitive to the rays. The presence, however, of $\frac{1}{10000}$ of a milligramme of the metal could be readily detected. *Lithium* gives two sharply defined lines—the one a very weak *yellow* line, and the other a bright *red* line, both towards the extreme red end of the solar spectrum; though the reaction is not so sensitive as with sodium, it is by far the most delicate test for the metal, the eye being capable of distinguishing with absolute certainty a quantity of carbonate of lithium less than $\frac{9}{100\,3000}$ of a milligramme in weight. The authors found to their surprise that lithium, instead of being a rare substance, was a very widely-distributed one, occurring in almost all bodies. They found it in the water of the Atlantic; in the ashes of marine plants; in pure spring water; in the ashes of tobacco, vine leaves, and of grapes; and even in the milk of animals fed on crops growing in the Rhine plain, on a non-granite soil. *Strontium*, *barium*, and *calcium* all give characteristic spectra; that of *strontium* is characterised by the absence of *green* bands. It contains, however, eight remarkable ones, namely, six *red*, one *orange*, and one *blue* line. To examine the intensity of the reaction, Kirchhoff and Bunsen threw up into the air of the room, in the form of fine dust 0·077 grm. of chloride, and thoroughly mixed the air by rapidly moving an umbrella; the lines immediately came out, and realised the presence of the $\frac{6}{1000000}$ part of a milligramme of strontium. The *barium* spectrum is distinguished by two very distinct *green* lines, by which the authors were enabled to detect with certainty $\frac{1}{10000}$ of a milligramme of the metal. *Calcium* gives a broad very and characteristic *green* line, and, moreover, a bright *orange* line lying near the red end of the spectrum. $\frac{6}{1000000}$ of a milligramme of the chloride of the metal could be easily detected. It is particularly worthy of note that the spectra-reactions of different metals do not interfere with one another; that each being characterised by some one or more special lines, it is easy to make a qualitative analysis of a compound containing several elements: thus, Kirchhoff and Bunsen were enabled to exhibit the reactions of *potassium*, *sodium*, *lithium*, *calcium*, and *strontium*, in several mineral waters; to show the bands of *sodium*, *potassium*, *lithium*, and *calcium* in the ash of a cigar moistened with hydrochloric acid, and to point out differences in the composition of various limestones. But the greatest triumph of the new method of analysis was the discovery of a fourth member of the group of alkali metals. While working on the residue of a mineral water from Kreuznach, a spectrum was obtained which gave lines as simple and characteristic as those of lithium and sodium, but which were *blue*, and were not referable to any known element; these indefatigable chemists evaporated down no less a quantity than *twenty tons* of the water, and obtained 240 grains of the platinum salt of the new metal, which they call *cæsium*, from the Latin word *cæsius*, signifying grayish blue, that being the tint of the two spectral lines which it shows. The new metal is very analogous to potassium, but differs from it in the solubility of its nitrate in alcohol. Its equivalent number is 117, being exactly three times that of potassium. It is scarcely possible to overrate the probable importance to chemical science of this new and beautiful method of analysis. "In spectrum analysis," observe the authors, "the coloured bands are unaffected by any alteration of physical conditions, or by the presence of other bodies. The positions which the lines occupy in the spectrum, indicate the existence of a chemical property as unalterable as the combining weights themselves, and may therefore be estimated with almost astronomical precision; it extends almost to infinity the limits within which the chemical characteristics of matter have hitherto been confined. By an application of the method to geological inquiries, the most valuable results may be expected; it opens out, moreover, the investigation of an entirely

untrodden field, stretching even beyond the solar system, for in order to examine the composition of a luminous gas, we require, according to this method, only to see it; and it is evident that the same mode of analysis must be applicable to the atmosphere of the sun and of the brighter fixed stars."

PHOTOGRAPHIC CHEMICALS.—II.

5.—The Collodion Process.

We have now come to the process which of all others is the most easy in its manipulation and the most perfect in its results. It was discovered in 1850 by Mr. Frederic Scott Archer, a sculptor and artist, who occupied his leisure time in experimenting in chemistry and photography. His idea in using collodion was to get a transparent and structureless film for the deposition of the iodide of silver, and so to do away with the want of detail in paper pictures—to get, in fact, a transparent paper to work on. In his experiments he arrived at the unexpected fact, that his process surpassed every other in sensitiveness as well as in delicacy of detail and artistic effect. Mr. Archer, though a comparatively poor man, threw his invention open to the public in the most disinterested and noble manner, and reaped the fruits of his generosity by dying almost a beggar, being latterly only kept from positive starvation by a few pounds, wrung with great difficulty from the men who had won thousands and tens of thousands by his invention. Had he patented his idea his wealth would have been incalculable, His conduct in this instance was in strong contrast to that of Mr. Fox Talbot, who, though a man of large property, immediately he discovered the Calotype process, took out a patent for it, and it is even said established a portrait gallery in London, under other names than his own. This and his persecution and prosecution of M. Laroche, the photographer, a poor struggling man, for a fancied infringement of his patent, quite eclipses the fame of his great discovery.

Collodion photographs are of two kinds—positive and negative. In the positive process the image is developed with protosulphate of iron, which gives a bright silvery deposit instead of a black one as in the other processes. The picture requires to be backed with some dead black substance—velvet for instance. On holding up a positive to the light it will be found to be a weak negative, the parts which are silvery white by reflection being black or dark grey by transmission. A negative is developed with pyrogallic acid, which gives a deposit that is dense black by transmitted light, and dirty yellow or light brown by reflection. Every good positive, then, is a bad negative, from being too weak—every good negative is a bad positive from being too strong, and of the wrong colour when viewed by reflected light.

Positives are taken in the following manner :—A small quantity of collodion, to which an alkaline or metallic iodide has been added, is poured on the centre of a glass plate, and run off at one of the corners, leaving a film of iodised collodion on the glass, which is immediately immersed in an upright bath of solution of nitrate of silver. Collodio-iodide of silver is formed, and the plate is exposed to the image in the camera, and then covered with a solution of protosulphate of iron, to which acetic acid has been added, to moderate its intense developing power. When all the details of the picture have appeared the plate is washed, a solution of hyposulphate of soda or cyanide of potassium is poured over it to remove the unaltered iodide of silver, and after being once more washed it is dried, and the picture is backed up with black velvet or black varnish.

A negative is taken in precisely the same manner, except that a thicker collodion is used, and the picture is developed with a solution of pyrogallic acid, to which acetic acid has been added. The exposure in the camera and the development are continued much longer, and the picture is varnished with a transparent varnish. From this negative plate may be obtained an unlimited number of prints, all as good as the first one.

Dry collodion has of late received very great attention from its simplicity and good results. Its fancied excellence consists in the fact of its keeping qualities. A plate may be prepared on Christmas Day, exposed on Easter Sunday, and developed before sitting down to one's Michaelmas goose; whereas in wet collodion the plate must be exposed and developed while still in a moist condition. The principal dry processes are those of M. Taupenot and Mr. Fothergill. These have received numerous simplifications and alterations from different

operators, and yield results but slightly inferior to the best wet collodion pictures. In the Taupenot process the plate is coated and sensitised as in the ordinary wet collodion process, taking care to use a collodion which gives a powdery rather than a leathery film. Wash freely in distilled water to remove the excess of nitrate of silver. Drain closely, and while still wet pour on a quantity of iodised albumen sufficient to cover the plate. Allow it to remain on for a few minutes to mix with the surface water of the washed plate, pour it away and repeat the coating with a fresh quantity of albumen. Pour this off and drain. Dry by heat, and the plates are ready for sensitising. When required for use they should be immersed in a 30-grain bath of nitrate of silver, to which have been added 30 minims of glacial acetic acid to each fluid ounce of solution. The plate is again washed and dried, and is then fit for use. The development is effected by first moistening the plate with water and then pouring over it a solution of gallic acid, to which a few drops of nitrate of silver have been added. The plates are fixed and varnished in the usual way.

In the Fothergill process a collodion plate is prepared in the ordinary way, and washed in a *certain* quantity of water. The object of using a definite quantity of water is, that a small amount of nitrate of silver should be retained on the surface of the collodion. In this it differs from the Taupenot process, in which the whole of the silver is removed by copious washing. Drain the plate, and pour over it a quantity of pure albumen, to which an equal quantity of distilled water and a few drops of ammonia have been added. Drain, wash, and dry, and the plate is fit for use. The ordinary wet collodion developer may be used for bringing out the picture.

These two last processes have quite surpassed the various wet preservative processes, in which the moisture of the film was preserved for an indefinite period by the use of some inert deliquescent substance, such as honey, grape sugar, oxymel, raspberry syrup, golden syrup, nitrate of magnesia, glycerine, and innumerable other messes and concoctions.

Taupenot and Fothergill plates are much used for printing stereoscopic transparencies.

We have now come to the end of the negative processes proper, and shall proceed to describe the methods used to transfer their results to paper.

THE NATURAL ORDERS OF PLANTS.

Papaveraceæ.—The Poppy Order.

No order in the vegetable kingdom can vie with this in importance; for the most valuable medicinal agent in the Materia Medica, Opium, is produced by one of its members, the *Papaver somniferum*. The order consists of herbs and shrubs usually containing a milky juice, generally white, but sometimes coloured; and it occupies a high position in the class Exogens, as regards development. The plants of the order are usually annuals; the perennials are chiefly natives of mountainous districts. Nearly two-thirds of the order are stated to be natives of Europe, and to be almost unknown in tropical regions. According to De Candolle, "Two species only are peculiar to Siberia, three to China and Japan, one to the Cape of Good Hope, one to New Holland, and six to tropical America." Lindley says, "several are found in North America, beyond the tropics; and it is probable that the order will yet receive many additions from that region." The order contains eighteen genera and one hundred and thirty species, and receives its name from the genus Papaver; according to Withering, "Learned etymologists derive this name from Pap, Papa, given to infants in order to procure sleep."

Botanical Characters.—The leaves are alternate and without stipules (leafy appendages at the base). The calyx (outer floral covering) consists of two, or rarely three divisions (sepals), which are deciduous. The corolla (inner floral covering) is generally composed of four divisions (petals), or some multiple of that number, rarely of six, and, very rarely, they are altogether wanting, as in Bocconia: they are usually crumpled before expansion, and hypogynous. The stamens (male organs) are generally numerous and hypogynous (situated below the female organ, and free from it and the calyx). The ovary (that part of the female organ, or pistil, which contains the rudimentary seeds) is one-celled, with two or more parietal placentas (this signifies that the part or place to which the ovules, or rudimentary seeds, are

attached, proceeds from the interior surface of the ovary), which project more or less from the walls of the ovary into its cavity, and sometimes (as in Romneya) adhere in the centre. The styles (the part which connects the stigma and ovary) very short, or absent altogether. The stigmas (the part of the female organ that receives the pollen), two, or many, opposite to the placentas, and when numerous forming a star-like process on the surface of the ovary. The fruit is one-celled, and either pod-shaped, as in Chelidonium, with two parietal placentas; or capsular, as in Papaver, with several placentas. They open by valves or pores, or are indehiscent. The seeds are generally numerous, and the embryo inclosed in fleshy oily albumen. The peduncles (flower stalks) are long and one-flowered, and the flowers never blue.

DIAGNOSIS.—Professor Bentley describes them as "Usually herbs with a milky juice. Leaves alternate and exstipulate. Peduncles one-flowered; flowers regular and symmetrical. Calyx and corolla with a binary or ternary arrangement of their parts, deciduous, hypogynous. Stamens numerous, hypogynous. Ovary compound, one-celled, with parietal placentas. Stigmas opposite to the placentas. Fruit one-celled. Seeds numerous, albuminous."

DISTINCTIONS FROM ALLIED ORDERS.—*Cruciferæ*—By the totally different structure of their seeds. *Ranunculaceæ*—By their narcotic milky juice and generally consolidated carpels.

GENERAL PROPERTIES.—The prevailing properties of this order are narcotic, especially the genus Papaver. Some possess acrid properties as well as narcotic, as Sanguinaria canadensis and Chelidonium majus, whilst others are purgative. The seeds are universally oily and generally in no degree narcotic.

PRINCIPAL PLANTS AND USES.

ARGEMONE.—The seeds of the species *Mexicana*, Mexican or Gamboge Thistle, Prickly Poppy, called by the Spaniards, *Fico del-inferno*, are stated to be narcotic, especially if smoked with tobacco, and purgative. Lindley says, "They are used in the West Indies as a substitute for ipecacuanha; and the juice is considered by the native doctors of India as a valuable remedy in Opthalmia, dropped into the eye and over the tarsus; also as a good application to chancres. It is purgative and deobstruent. The Brazilians administer the juice of this plant, their *Cardo santo*, to persons or animals bitten by serpents, but, it would appear, without much success." An oil may be obtained from them by expression, which is said to possess aperient and other properties, and has been recommended in the treatment of cholera.

CHELIDONIUM.—An article on the species *majus* will be found in our Botanical Calendar for April.*

MECONOPSIS.—The species *Napalensis*, a native of Nipal, is described as being extremely poisonous, particularly the roots.

PAPAVER.—An article on the species *Somniferum* will be found in our Botanical Calendar for July,† and on the species *Rhœas* in that for June.‡

SANGUINARIA.—The species *Canadensis* is the Puccoon or Blood Root of North America, of which country it is a native. The root is of a red colour, and pours out a red viscid juice when wounded, hence its name. The root is narcotic, emetic, and purgative in large doses: stimulant, diaphoretic, and expectorant in small ones. An alkaloid termed *Sanguinarina* has been obtained from it. It has been much used in the United States. As an external application it has been said to possess escharotic properties, and to have been employed in conjunction with chloride of zinc as an application in cases of cancer, but from trials made in this country it does not appear to possess this quality in any great degree.

Many flowers that ornament our gardens are members of this order, as the several species of Argemone, Eschscholtzia, Papaver, Platystemon, and Ræmeria.

BŒTTGER'S METHOD OF BLEACHING SPONGE.—The softest and cleanest sponges are selected, washed and squeezed out repeatedly in water. They are plunged in dilute hydrochloric acid (1 part of acid and 6 parts of water) in order to separate the calcareous matters. This immersion is for one hour. They are then carefully washed and plunged into a second bath of dilute hydrochloric acid, prepared as the first, except that there is added 6 per cent. of hyposulphite of soda dissolved in a little water. The sponges are suffered to remain in this bath for 24 hours. A final washing with water removes the chemical substances,—and the sponges acquire by this method a beautiful whiteness.—*Rep. de Pharmacie.*

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* Vol. I. p. 157. † Vol. I. p. 425. ‡ Vol. I. p. 216.

GUARANA.

Guarana is the manufactured product of the fruit of a tree which grows on the river Tappagos, on some headwaters of the Orinoco, and elsewhere in the great Amazon valley. It is manufactured by various Indian tribes, among which may be enumerated the Muras and the Decapitadores, or Mondrucu Indians, with whom it forms a staple article of commercial exchange among the Portuguese settlers (a cunning people) and the native Brazilians. As is to be supposed, it requires both care and accuracy in the process of formation, and it is so highly prized in the Brazilian settlement as to obtain its weight in silver when exported thither. It commands a price ranging from four to twenty shillings per ounce.

Guarana is prepared from the seeds of an *inga*—one of the "Mimosaceæ." Like all the mimosa species it is a low-spreading bushy tree. The fruit is gathered when it is ripe, and the seeds roasted in the legumes intact. They are then taken out, and after being powdered between stones or mallets, are mixed into a thick paste with water, which is moulded into flat bricks or cakes, and when dried—which process is accomplished with the heat of the sun—it is ready for use. In this form it will keep good for any length of time, and is always ready when required. In this state it is used for making a drink or beverage, which is prepared by scraping a tablespoonful of powder from the cake, and mixing it with a pint of boiling water. It is made not only for "home use," but also for wholesale consumption.

It has properties when taken internally analogous to tea and coffee, producing on the system a stimulating effect. It arouses the intellect, and prevents sleep. It is highly tonic and febrifuge, and is esteemed by many to have properties equal to quinine, especially in cases of intermittent fevers.

We believe it is only to be obtained in this country on very rare occasions, but it is probable that it will one day become a cheap and useful article both of diet and medicine in the homesteads of Britain.

ON TINCTURA ARNICÆ.*

By William Procter, Jun.

It is well known that this preparation is now largely employed by the public as an external application for bruises; and notwithstanding the contempt with which its powers have been spoken of by eminent members of the medical profession, it has gradually gained ground among practitioners of medicine, and may now be considered as among the probable novelties of the revised edition of the *U. S. Pharmacopœia.*

In view of this probability, it is desirable that a recipe should be adopted that will merit in all respects the confidence of the physician. Various formulas have been published, in which the strength varies from two to four ounces to the pint, with menstrua ranging from diluted alcohol to alcohol of 95 per cent.

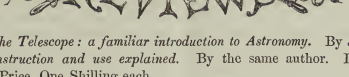
The points to be accomplished in the successful preparation of this tincture are, that, being for external application, it should be strong; next, that the menstruum used should be the right solvent for the principles to be extracted; and, lastly, that it should not be so alcoholic as to evaporate too rapidly, or to be too stimulating. The following recipe, which I have used for many years, was adopted by the revisional committee of the Philadelphia College of Pharmacy, and is worthy of attention:—

Take of arnica flowers, six ounces;
alcohol and water, of each a sufficient quantity.

Mix three parts of alcohol, ·835, with one of water; and having sprinkled the flowers with a small portion to prevent dust, bruise them thoroughly until fit for percolation, then pack the arnica in a percolator, and pour on the menstruum so that it shall pass slowly until two pints of tincture are obtained.

This tincture has a dark greenish brown hue, quite different from that made with alcohol alone, a decided odour of the drug, and its activity in full; as I had occasion to learn from the accidental swallowing of a teaspoonful of it by a lady, who took it instead of Warner's cordial—the symptoms of poisoning (as stated by the authorities) being rapidly manifested.

* Extracted from the *American Journal of Pharmacy.*



The Stars and the Telescope: a familiar introduction to Astronomy. By J. T. SLUGG. *The Telescope: its construction and use explained.* By the same author. London: Simpkin, Marshall, & Co. Price, One Shilling each.

Although these admirable little books do not fall within the field of view exposed to our critical spectacles, we are constrained to notice them, as they are the productions of a distinguished member of the profession from which this journal derives its name. Pharmacy and astronomy have long been divorced. The modern pharmaceutist does not care whether Saturn or Mercury was in the ascendant when the drugs which he compounds were collected, and though he retains a few of the old astrological symbols as ornaments for his show-bottles, and still speaks of *lunar* caustic and *saturnine* compounds, he does not include divine astronomy in his professional studies. In the contemplation of the heavenly bodies Mr. Slugg, of Manchester, has profitably employed his leisure, and we trust the two manuals in which he has described all the leading facts of astronomy will induce many of his brother pharmacists to follow his example. With these excellent treatises and one of the author's cheap telescopes any one may acquire a deep knowledge of astronomy. An address to the public on cheap telescopes forms an appendix to Mr. Slugg's second work. From this address we extract the following passages:—

"My attention was first forced to the subject by the unexpected results which followed the publication of one or two letters, in September, 1858, addressed by me to the editors of the *Manchester Guardian* and *Examiner and Times*, containing instructions to make a cheap telescope. The interest of the subject procured their being copied into the *Times*, and many other periodicals. Letters on the subject made their appearance from a number of correspondents in the newspapers. I was visited by gentlemen of influence and others, not only from this immediate neighbourhood, but from the most distant parts of the kingdom. Every post brought letters requesting me to obtain and forward the telescope which had been described. The letters, cut out of the newspaper, were seen stuck on the windows of opticians in Dover and the Isle of Wight. Letters of thanks were written to me by working men, expressing how much pleasure they had derived from a sight of Jupiter's moons, &c., for the first time in their lives, through one of the cheap telescopes.

"All this, I repeat, was quite unexpected;—my highest ambition then being to confer upon a few others the same pleasure I had *once* derived myself from the possession of such a telescope.

"I thus became informed of the increasing and wide-spread interest taken in the subject of Astronomy, and of the yearning desire existing in the minds of hundreds, if not thousands, of intelligent persons, for the possession of a good astronomical achromatic telescope. Feeling convinced that the time and circumstances were favourable to the project, and believing it to be an object worthy of any man's ambition, I resolved upon an endeavour to popularise the telescope, by placing the purchase of one that should show Saturn's ring within the reach of even a working man's pocket. Since this resolution was formed, all that I could spare of my time, my energies, and my means have been devoted to that object. For more than twelve months the pursuit of this object has been my only recreation.

"As a part of my plan I prepared for the press two manuals, one containing a concise but comprehensive summary of the leading facts of Astronomy and the wonders revealed by the telescope, written in a clear and plain style; the other containing a description of that instrument, its construction and use."

We may here mention that Mr. Slugg has recently produced a cheap microscope intended for the use of druggists. This instrument we shall notice at length in an early number.

We have read the two works with great care, and unhesitatingly pronounce them to be much more practical and complete than any of the popular treatises on astronomy which have been published before them. The *Stars and the Telescope* is a concise description of the starry heavens and the various celestial phenomena revealed by the telescope. The supplementary work contains directions to make a telescope, and gives full information as to the price of lenses, eye-pieces, telescopes, and stands. The list of various double stars, nebulæ, and other celestial objects for telescopic observation which is given in this volume, will enable the amateur astronomer to enjoy many a glorious treat on clear evenings. Each work is illustrated with numerous wood-cuts.

THE MAGAZINES.

Philosophical Magazine.—The contents of the February number of this magazine, though altogether too abstruse for the general reader, will be devoured with avidity by the earnest student of science. In a note upon a celebrated experiment, described by Ampère, Professor J. D. Forbes gives the results of some experiments undertaken by himself with the view of ascertaining the effects of an electrical current upon itself, and upon the different portions of one and the same conductor conveying it. Every electrician ought to feel grateful to the Professor for the light which he has thrown upon this obscure subject. From a paper, by F. W. and A. Dupré, we learn that another new metal has literally been brought to light. During their recent examination of London waters, by the beautiful method of Kirchhoff and Bunsen, these distinguished chemists several times noticed a faint blue line in the spectrum, not due to strontium or potassium, or to the lately discovered cæsium. By operating upon large quantities of the deposit, formed by boiling the deep-well water, which had given this line most distinctly, they have succeeded in tracing the effect of the presence of a fourth member of the calcium group of metals. Many of our readers are doubtless aware that Professor Schœnbein has for some time been trying to obtain "Antozone" in its insulated state. From a great number of facts, he had drawn the inference that oxygen existed in some oxides as "ozone," and in others as "antozone;" that is to say, in two opposite active conditions. Years ago he succeeded in isolating "ozone," but, until lately, all his attemps to obtain "antozone" proved unsuccessful. In a letter to Faraday, published in this magazine, Schœnbein declares, with great glee, that he has at length succeeded in bagging this mysterious polarized oxygen. A dark blue species of fluor-spar, occurring within the veins of a granite rock at Walsendorf, in Bavaria, has long been distinguished by its property of producing a disagreeable smell on being triturated. Schœnbein suspecting that the odorous matter emitted was nothing less than "antozone," obtained a small portion of the fluor-spar, and applied the proper test for the detection of that mysterious body. Before quoting the Professor's account of the satisfactory result which he eventually arrived at, we may inform our readers that a most important property of "antozone," and one that distinguishes it from "ozone" and neutral oxygen, is the readiness with which it unites with water to form peroxide of hydrogen. "Surprising as it may sound to you," writes Schœnbein to Faraday, "and unique as the fact certainly is, that matter (emitted from the spar) happens to be nothing but my insulated antozone . . . . On triturating the fluor-spar with water, peroxide of hydrogen is formed, not in homœopathic, but very perceptible quantities. When I first found out this extraordinary fact (I think it was on the 17th of November last), I could not help laughing aloud, though I happened to be quite alone in my laboratory. I laughed because I strongly suspected my foe to be hidden in the spar, and I broke his mask under water with the view of catching him by that fluid. Indeed it was to me as if I had caught a very cunning fox, long sought after, in a trap put up for him." The remaining articles in this magazine are quite as important as those we have already alluded to, but a mere enumeration of them would take up more space than we can afford. We must not conclude this notice, however, without alluding to Faraday's interesting "Note on Regelation," read before the Royal Society, and printed in the magazine. Two pieces of thawing ice, if put together, adhere and become one; at a place where liquefaction was proceeding, congelation suddenly occurs. The effect will take place in air, in water, or in vacuo. It will occur at every point where the two pieces of ice touch; but not with ice below the freezing point, that is, with dry ice, or ice so cold as to be every where in the solid state. In investigating this beautiful point in molecular philosophy, the great master of experiment has obtained many curious results with apparatus of the simplest kind, and has rendered our knowledge of the phenomenon of Regelation much more defined and exact than it was before the researches recorded in the journal before us were given to the world.

Pharmaceutical Journal.—The Adulteration of Food Act is criticised in an able leader, and we are glad to find that our contemporary regards it as a mischievous measure. The report of the Pharmaceutical Meeting, held on the 2nd ultimo, published in this number, includes the important discussion on the Process of Displacement, Mr. F. Peake's description of the Himalayan Musk Deer, a notice of Mr. Squire's Glass Condenser, and Mr. Schweitzer's paper on accidental Poisonings. Mr. Daniel Hanbury contributes a valuable "Note on Anacahuite

wood, a reputed remedy for consumption ;" and Mr. Alfred S. Taylor continues his "Facts and Fallacies connected with the research for Arsenic and Antimony." The remaining articles, with but few exceptions, are extracted from the scientific journals.

The Technologist.—This monthly record of Science applied to Art and Manufacture is edited by Mr. P. L. Simmonds, the author of several important technological works. The first number appeared in August, and was most favourably received by the scientific world, such a publication having long been a desideratum. Though but seven months old, the *Technologist* is now firmly established, and English and Foreign scientific periodicals are indebted to it for many valuable articles. From the pages of this admirable little magazine the pharmacist may derive much useful information which he cannot obtain from any other source. The title of the articles contained in the February number will reveal the nature of this unique publication, and as our space is limited, we give them instead of a critical notice of one or two papers:—"The Native Farinas of Jamaica;" "On the Natural History of the Lac Insect (Coccus Lacca)," by H. J. Carter, F.R.S.; "Some Remarks upon Shellac, with an Especial Reference to its present Commercial Position," by John Mackay ; "Botanical Society of Canada ;" "The Shea Butter of Africa ;" "Mother of Pearl and its Uses," by the Editor ; and "Scientific Notes." We may inform our readers that this magazine is marvellously cheap, the price of each number being sixpence.

American Journal of Pharmacy.—The January number of our Philadelphian contemporary opens with an article entitled "Fancy and Fashion in Pharmacy," by Messrs. Parrish and Bakes. As we intend to reprint this in our next, we need not allude to it further in this place. A masterly paper, by Mr. John M. Maisch, on the remedial properties of the Celandine (Chelidonium majus), a well-known European plant, which has been naturalized in the United States, is another contribution worthy of the attention of the English pharmacist. The same author discourses upon the adulteration of carmine, and upon iron reduced by hydrogen. From the pen of Professor Procter, the discriminating editor of the journal, there are two excellent articles, the one on Tinctura Arnicæ, and the other on an American preparation, known as Bitter Wine of Iron. Mr. W. R. Warner contributes a paper on two new pieces of apparatus, which in his hands have proved highly efficient and useful, the first being designed for filtering fixed oils, and the second for condensing vapours in the distillation of watery, alcoholic, or ethereal liquids. Among the extracted articles appears our "Lithium and its Salts ;" but the *Dublin Hospital Gazette* is named as the source from which it has been derived. In the editorial department the United Society of Chemists and Druggists is touched upon.

Journal and Transactions of the Maryland College of Pharmacy.—The authorized journal of the Maryland College, edited by William S. Thompson, is issued quarterly, in March, June, September, and December. Having made arrangements with the publishing committee, at Baltimore, to receive this admirable journal regularly, we will take care to communicate to our readers whatever valuable information we may derive from the lucubrations of the pharmacists of Maryland. In the December number of the journal, there is an article by Dr. F. Donaldson, on Chloride, which we are bound to notice, as the writer's animadversions on this popular remedy have been called forth by Dr. Ogden's formula, published in the *Chemist and Druggist*, which formula is said to differ materially from that of Dr. J. Collis Browne. The following remarks apply, therefore, to the so-called Chlorodyne, prepared according to Dr. Ogden's recipe, but whether they are equally applicable to Dr. Browne's nostrum is at present an open question :—

"If medical practitioners will continue to use such compounds, in consonance with the polypharmacy of the past, how can we ever arrive at a correct knowledge of the effects and value of remedies ? We ask them to examine more closely the formula (Dr. Ogden's), and they will recognize in it substances, which are therapeutically incompatible, just as much so as if there were acids and bases, for their action is antagonistic. The amount of morphia, it is true, is so large that, ordinarily, it would predominate over every other medicinal influence ; yet it is well-known that morphia and Indian hemp are powerful cerebral stimulants, whereas chloroform and prussic acid are energetic cerebral sedatives. They are all more or less anodyne and narcotic, but in entirely opposite ways. The first two by gradual over-stimulation, and the last two (being more readily absorbed) by excessive immediate sedation. Opium arrests respiration and produces death, by the non-conversion of venous blood into arterial (asphyxia), whereas Bernard has

shown that prussic acid, like the oxide of carbon, proves fatal, by preventing the arterial blood from becoming venous in the capillaries. We may be thankful the distinguished surgeon did not include in his compound strychnia, and then add the Corrowal poison to neutralize its deadly physiological action."

The "distinguished surgeon" referred to in the last paragraph of the above extract is, of course, Dr. Browne, as the writer takes it for granted that the secret remedy, invented by that gentleman, is composed of the ingredients named by Dr. Ogden. The article published by us, twelve months ago, has proved a veritable firebrand; but we cannot help thinking that pharmacy will eventually profit by the conflagration which it has given rise to. Nothing less than a good fire will serve to remove some nuisances. Our readers will doubtless remember an interesting paper on "Lithium and its Salts," which appeared in our July number last year. Well, this article crops out in the Maryland journal with the titles of two of our contemporaries appended to it, but without the title which heads this page. To account for this omission, and to exonerate our friends in Baltimore from blame, we will give our readers the true history of this little article. It was written expressly for the *Chemist and Druggist*, by one of our regular contributors, and attracted the notice of the editor of the *Dublin Hospital Gazette*, who ventured to steal it—"*convey* the wise it calls"—and to publish it as an original contribution. The editor of the *Pharmaceutical Journal* seeing it in the Dublin print pounced upon it at once, and without taking the trouble to ascertain whether the *Gazette* had come by it honestly, transplanted it to the pages of his publication, acknowledging the source from which he had taken it. From the *Pharmaceutical Journal* it has found its way into the organ of the Maryland College, as is proved by the italics *(Dublin Hospital Gazette—London Pharm. Journal)*, which have been added to it by the conscientious editor.

Maryland and Virginia Medical Journal.—This publication is addressed to members of the medical profession, and we can derive from its pages but little information on those subjects in which pharmacists are most particularly interested. In the January number there are some curious facts relating to the mysterious drug, Haschish, communicated by Dr. Polli, of Milan. The Doctor states that he has tried Haschish in a case of hydrophobia, but without success. There is also an excellent review of Dr. Day's important work on Physiological Chemistry.

NEW BOOKS.

Barwell (Rich.)—Treatise on Diseases of the Joints.
Beale (L. S.)—How to work with the Microscope.
Birch (S. B.)—Constipated Bowels; the causes and means of cure.
Brown-Séquard (C. E.)—Lectures on Physiology.
Faraday (Mich.)—Six Lectures on the various forces of matter.
London and Provincial Medical Directory for 1861.
Morton (W. J. T.)—Veterinary Toxicological Chart.
Slater (W.)—Hand-book of Chemical Analysis for Practical Men.
Wells (T. S.)—Scale of Medicines for the Merchant Service.

PUBLICATIONS RECEIVED.

ENGLISH.—Pharmaceutical Journal.—Technologist.—Dublin Hospital Gazette.—Weekly Traveller.

AMERICAN. *For January.*—American Journal of Pharmacy.—Medical and Surgical Reporter.—Dental Cosmos (Philadelphia).—Eclectic Medical Journal.—Journal of Rational Medicine.—The Cincinnatus (Cincinnati).—Nashville Journal of Medicine and Surgery.—Boston Medical and Surgical Journal. *For December.*—Tilden's Journal of Materia Medica (New Lebanon).—Boston Medical and Surgical Journal.—Maryland and Virginia Medical Journal (Baltimore). *For November.*—American Journal of Science and Art (New Haven).—Savannah Journal of Medicine.—Keith's Journal of Indigenous Materia Medica (New York). The following weekly publications have regularly come to hand:—Scientific American.—American Medical Times.—American Agriculturist.—Drug Reporter (New York).—The Druggist (Cincinnati).

LIQUOR OPII FERMENTATUS.

HISTORY.—Liquor Opii Fermentatus was introduced, in the latter part of the year 1856, as a substitute for all other preparations of opium. In the prospectus issued by the inventor we read: "That the objection to Liquor Opii Sedativus, Muriate and Acetate of Morphia, and Black Drop, is the retention of the narcotic ingredient; which is always the result, from the addition of an acid in place of its generation."

PROPERTIES.—This preparation is a dark liquid, soluble in alcohol and water. Unlike Liq. Opii Sed., it never deposits sedatine. In the process of formation carbonic acid is evolved, which renders the opium more energetic and decisive, whilst the generation of a small portion of alcohol and acetic acid contributes to keep alive its sedative power. In its preparation, also, the aroma (its sedative principle) is suspended in a humid atmosphere, at the same time that the carbonic acid is disengaged and dispelled. The great desideratum appears to be to deprive the opiate of its narcotic influence, and retain solely the sedative principle, and to guard against contributing alcohol. The acid and the spirit must be generated by spontaneous fermentation, or the remedy produces nothing but dissatisfaction and distress to the patient and vexation to the practitioner.

The organization of vegetables is such, that any addition of acetous menstrua decomposes the active principle of the vegetable employed; hence the objection to the Liq. Opii Sedativus, which from time to time deposits by decomposition its sedative principle, and requires an additional quantity of acid to excess of alcohol to re-suspend it.

THERAPEUTIC EFFECTS.—It is unnecessary to describe at any length the therapeutic effects of this new preparation, as it would be only recapitulating those of the parent drug—opium. Yet there are exceptional effects, which the inventor claims for his preparation, and which must here be noticed. It neither produces headache, giddiness, nausea, prostration of strength, nor stupor. It is uniform in causing calm and refreshing sleep, and is more manageable than any other form of opium. We learn that it has lately been somewhat extensively employed by many of the leading members of the profession, and that it has received their unqualified approval.

The dose is from iij. to xx. ℥. Its medicinal power being as one to three of Liq. Opii Sedativus.

THE CHEMICAL HISTORY OF A CANDLE.

A BRIEF notice of the interesting course of lectures recently delivered by Professor Faraday at the Royal Institution will doubtless be acceptable to many readers of this journal. Though specially addressed to boys and girls, our great philosopher's exposition of the phenomena of a burning candle astonished and delighted "children of larger growth," even those familiar with the results of scientific research. In his first lecture Faraday thus defined the position which he intended to take throughout the course:—"Though our subject be so great, and our intention that of treating it honestly, philosophically, and seriously, yet I mean to pass away from all those here who are seniors. I claim the right of speaking to juveniles as a juvenile myself. I have done it on former occasions, and if you please I shall do it again. And though I know that I stand here with the knowledge of having the words I utter given to the world, yet that shall not deter me from speaking in the same familiar way to those whom I esteem nearest to me on this occasion." We sincerely hope that the Professor will for many years to come deign to play the part of a juvenile, and bring before the rising generation those grand truths of science which he has so materially helped to establish.

In our limited space we can only touch upon the chief phenomena of a burning candle, and describe a few of the ingenious experiments which the great master of chemical manipulation exhibited to his young friends. We shall treat the whole course as though it were one lecture, for the division of the subject into six parts could not render this notice more interesting, though it would necessarily increase its length.

What are candles made of? To enable his audience to answer this question, Faraday exhibited specimens of almost every variety of candle, from the splinter of candle-wood taken out of the Irish bog, to the semi-transparent and delicately-tinted pillar of paraffin or stearine which is now used as a source of light. Some of these specimens attracted particular attention. There was a candle which had been obtained from the *Royal George*, and though it had been subjected to the action of salt water for many years, it still retained its light-giving properties. There were the miners' candles formerly used in coal-pits, some so small that sixty

went to the pound. There were modern candles beautifully shaped and coloured; some of these were fluted pillars, others were ornamented with raised flowers, and those which depended upon colour rather than form for beauty were tinted with mauve, Magenta, and all the chemical colours which have been recently introduced. Having explained the manufacture of candles, the lecturer lit one or two specimens, and called attention to the form of the flame, and to the beautiful cup filled with melted tallow beneath the flame. He showed that this cup was formed by a fine uniform ascending current of air upon all sides, which kept the exterior of the candle cool, and explained how the melted tallow got out of the cup up the wick into the place of combustion. As an illustration of the force which causes the tallow to ascend, he placed a column of salt on a plate, and poured into this plate a saturated solution of salt, coloured blue, when the liquid at once commenced to creep up the salt, and eventually reached the top. Another simple illustration of capillary attraction was afforded by a bit of cane, one end of which was dipped in camphine, and when the spirit had passed through the pores of the cane to the upper extremity, it was lighted there, and a sort of candle was formed. In examining the flame of the candle, the lecturer made use of the electric lamp to project its shadow on a screen, and thus exhibit the ascending current of hot air which drew out the flame, supplied it with oxygen, and cooled the sides of the cup of melted fluid. To prove that the flame was hollow, he introduced the extremity of a bent glass tube into the middle of it, and allowed the unconsumed vapour to pass through the tube into a flask. Having satisfactorily demonstrated the combustible nature of this vapour by applying a lighted taper to it, he arranged another tube in the flame, and succeeded in lighting the vapour which issued from the orifice of the tube, at a considerable distance from the flame. "Talk about laying on gas!" he said; "why we can actually lay on a candle!" The products of combustion were then touched upon by the lecturer. He showed that water was produced by the union of the oxygen of the air with the hydrogen of the flame, and carbonic acid gas by the oxidation of the carbon. The beautiful series of experiments with which he illustrated his observations on the composition of water and atmospheric air were so carefully arranged, that one seemed naturally to lead to the other, and the youngest philosopher who attended the course could not miss the thread of the delightful story of the candle. The heads of Faraday's discourse—the chapters, so to speak, of this wonderful story—may here be given, as they will enable the reader to form some idea of the greatness of the subject treated:—Candles, the materials of which they are composed and the process of manufacture.—The Flame, its sources, structure, mobility, and brightness.—Air necessary for combustion.—Production of water during combustion.—Nature of water.—Hydrogen gas.—Nature of the atmosphere.—Nitrogen.—Carbonic acid another product from the candle; its peculiar properties.—Carbon or charcoal.—Coal gas.—Respiration and its analogy to the burning of a candle.

The Professor concluded his course with the following kind words addressed to his young friends:—"All I can say to you at the end of these leetures is to express a wish that you may, in your generation, be fit to compare to a candle; that you may, like it, shine as lights to those about; that, in all your actions, you may justify the beauty of the taper by making your deeds honourable and effectual in the discharge of your duty to your fellow-men."

Hydrated Sesquioxide of Iron in Poisoning by Arsenic.—Fazole of Venice has experimented largely on the efficacy of the hydrated sesquioxide as an antidote in arsenical poisoning. Nineteen dogs were poisoned by arsenic,—five took no antidote and died; of the fourteen others, treated by the sesquioxide of iron, twelve were saved, and two died.—*Cosmos.*

Red, Rose, and Blue Flowers.—All agree that these owe their colour to the same prineiple, becoming blue in flowers when the liquids are neutral, and red or rose eolour when they are acid. This prineiple has been called by a number of names; Fremy and Cloez call it *cyanin.* It is an uncrystallizable solid, analogous to extractive,—soluble in water and alcohol, but insoluble in ether. Alkalies give it a greenish tint. According to Morot, it contains nitrogen; but aecording to my invcstigation, eyanin becomes blue, and *not* green, under the influence of alkalies, and the green colour, which is observed on treating a red or blue flower with a salt of alkaline reaction, depends on the fact that the xanthogen, which accompanies the cyanine in almost all flowers, becomes yellow at the same time the cyanine becomes blue. The mixture of the blue and yellow constitute the green. Cyanin is also non-nitrogenous, as Morot supposed, but is identical with the substanee which Glenard calls *oenocyanin,* and which he extracts from wine. Certain red flowers do not contain xanthogen, and they become a pure blue or a beautiful violet in contact with ammonia. The poppy may be cited as an illustration. Cyanin exists in the young shoots of plants, and is sometimes accompanied with substanees that are more especially found in flowers. This is the ease with the young shoots of the Bengal rose, whieh are coloured red, are odoriferous and sweet as the flowers. The sugar and rose odour disappear *pari passu* with the cyanin in the progress of the vegetation, just as is the ease with the flowers themselves. Some plants with red or rose coloured flowers contain no cyanin. This is the ease with the aloe, whose flowers contain a colouring substance analogous with *carthamin,* and probably identieal.—*Filhol, in Journal of the Maryland College of Pharmacy.*

Royal Institution.—The following Leetures have been delivered since our last issue :—Professor Owen, "On Fishes." Professor Tyndall, "On Electrieity." Dr. G. C. Wallieh, "On the Nature of the Deep-sea Bed and the Presence of Animal Life at Vast Depths in the Ocean." Professor Frankland, "On Inorganie Chemistry." Rev. Alexander J. D. D'Orsey, "On the Study of the English Language as an Essential Part of a University Course." Professor T. H. Huxley, "On the Nature of the Earliest Stages of the Development of Animals."

Chemical Society.—The following papers have been read at reeent meetings of this society:—"On the Analysis of the Saline Water of Purton, near Swindon, North Wilts," by Dr. Noad, F.R.S.; "On the Electrolytic Test for Arsenic," by Professor Bloxham; and "On the Carbonates of Copper, Nickel, and Cobalt," by Professor Field.

Adulterated Snuff.—At a late meeting of the Manchester Philosophieal Society, Dr. Crace Calvert stated that he had lately examined several varieties of snuffs, which he found to be more or less impregnated with lead compounds, espeeially the black rappee; and he found on further investigation that the presence of lead was due to the eorrosive action of the snuff upon the lead foil used for packing it. He also stated that it was his intention to examine several other substanees usually packed in lead foils, and that he would lay the results of his observations before the soeiety, as he thought it highly desirable to make the public aware of sueh sourees of injury, and to induee manufacturers to adopt means to avoid inflieting this serious evil on their customers.

Poisonings.—A very strange affair has oecurred at Diss, Norfolk. The youngest son of Mr. R. Aldrich, a tradesman living in the town, was taken suddenly ill and died in a few hours, after suffering painful convulsions. Two other members of Mr. Aldrich's family were attaeked in a similar manner, but recovered. The symptoms of the deceased were those of bilious diarrhœa, and he was found by the surgeon to be in a semi-eomatose eondition. The surgeon gave him a powder, and called again in an hour or two, when he found that another medical man had been summoned to the bedside of the sufferer, and that the symptoms were still more alarming, the child being convulsed, the pupils of the eyes very much dilated, and the thumbs curiously turned in. The poor boy died in the course of twenty-four hours after he was first attaeked. A *post mortem* examination was made of his body, which presented a perfectly healthy appearance, with the exception of a perforation in the stomach about the size of a shilling, such as might have been caused by the action of a strong eorrosive poison. The stomach did not present the appearanee generally caused by the administration of arsenic or corrosive sublimate; but the examining surgeon was of opinion that the death of the boy was occasioned by the presence of poison in his system, although he could not indicate precisely what that poison was. On these facts being stated, at an inquest held by Mr. E. S. Bignold, deputy-coroner for Norfolk, the jury requested that an adjournment might take place in order that the stomach might undergo a proper analysis. This the deputy-coroner said he should not feel it his duty to order. The jury then inquired the law on the subject, and, finding that the coroner had the option of acting as he pleased in the matter, they requested that a copy of the depositions should be forwarded to the Home Secretary. This course being also objected to by the deputy-coroner, the jury unanimously declined to return a verdict. The inquiry was eventually adjourned to enable the deputy-coroner to eonsult the coroner for the county upon the course to be pursued. We have not heard that any further aetion has been taken in this remarkable case, which certainly ought not to rest in its present unsatisfactory position.—An inquest has been held at Mile End Old Town, before Mr. Humphreys, on the body of Matilda Mary Child, aged thirty-two, who committed suicide by swallowing a large quantity of essential oil of almonds. It appeared that the deceased had an illegitimate child, and had been deserted by the father. She had consequently been reduced to a very destitute eondition, and had earned a scanty subsistence by shirt making. The deeeased was found lying in bed, a tumbler and two letters by her side. A surgeon was sent for, but death had taken place some hours. The jury returned a verdict of "Temporary insanity."—A quack doctor named Bellhouse, has been accused of causing the death of a woman named Fletcher, at Sunderland. The evidenee given, however, clearly proved that the deceased had died from disease of the heart, and the jury returned a verdict to that effect. The examination of the doctor appears to have caused some amusement; he stated in his evidence,—"The bottle produced is the one I gave to the deceased. The label upon it represents it to be 'eoncentrated decoction of red Jamaica sarsaparilla,' I never saw any but one kind of sarsaparilla. As to specifying it as 'red,' I bought the labels ready printed. That bottle does not contain one particle of sarsaparilla. It contains

iodine of potassium, but in what proportion I cannot swear, as I did not weigh it. I just make it up, when wanted, by guess. I understand iodide of potassium is made from kelp, but I don't know whether it can be made from anything else or not. When administered it will make the nose run, but it won't make a sore leg run away. I think it was good for ulcers, such as those of the deceased; but I don't know why or wherefore."

The Doctor and the Chemist.—An inquest was lately held at the Bridge Inn, Accrington, touching the death of an infant named Walter Lawrence Sellers. According to the evidence of his mother, it appeared that the deceased was suffering three or four days before his death, and that she had given him some cooling powder obtained from G. Marshall, a druggist. Dr. Arkwright, in the course of his examination by the coroner, said, that Marshall was the author of a pamphlet, entitled, "Help for Mothers and Nurses," in which the medical profession came in for considerable abuse. His impression was, that the child might have been preserved had proper means been taken for its recovery; and that death had been the case, not only in this but in many other instances, from the improper confidence which unfortunate mothers placed in the representations contained in this pamphlet. The coroner, in summing up, said, that if the publication referred to led people to neglect proper remedies, it was lamentable that such should circulate. The verdict, "Died by Natural Causes," was given.

Law Intelligence.—*Baldock v. Welsh.* This was an action brought to recover compensation in damages for an alleged assault. The defendant pleaded "Not Guilty" and a justification. The case was tried before Mr. Baron Bramwell on the 28th ultimo. It appeared that the plaintiff was a chemist, carrying on business in Aylesbury-street, Clerkenwell, and the defendant was a tobacconist in St. John's-square, in that neighbourhood. On the 19th of October last the defendant's wife, a tall, powerful woman, came into the plaintiff's shop and began to abuse him in a most indecent manner about a charwoman she alleged he had recommended to her, and who, she stated, had robbed her. The plaintiff told her that he had not recommended any person to her, neither did he know who she herself was; whereupon she violently assaulted him, striking him in the face with her fist, tearing his forehead with her nails, and dragging out handfuls of his hair and whiskers. It required the assistance of two butchers to liberate the plaintiff from her clutches, and the marks she inflicted on his face disfigured him for several days. After all she found out that she had punished the wrong person, and that the plaintiff had nothing to do with the matter she complained of. The plaintiff wrote to the defendant demanding compensation and apology for the injury and insult he had received; but the defendant declined to afford him any satisfaction. Mr. Huddleston and Mr. Lapworth appeared for the plaintiff, and Mr. Day represented the defendant. Mr. Day, in cross-examining the plaintiff, asked him whether he had ever been bankrupt, insolvent, or in difficulties. The plaintiff in reply said, that he had carried on his business in the same street for eleven years, and that he considered such questions most insulting, as there was not the slightest foundation for them. The jury returned a verdict for the plaintiff with 100*l.* damages. On the 31st ultimo Mr. Day moved for a new trial, on the ground that the damages were excessive. Rule refused.—*Joslin v. Irvine.* An interesting case bearing on the magenta dye, was tried in the Court of Common Pleas on the last day of the past month. It appeared that the plaintiff is a merchant in the City, and the defendant is a chemical manufacturer. In July, 1860, the plaintiff purchased of the defendant some naphtha upon an agreement as follows, dated July 26, 1860:—"Sold to Messrs. Joslin and Co. 3000 gallons of naphtha, at 2*s.* 2*d.* per gallon per sample, 1000 gallons to be delivered weekly." The plaintiff sold this quantity of naphtha, according to the sample, and to be delivered at the same time, to Messrs. Hoile, at 2*s.* 6*d.* per gallon; but the defendant had not delivered any portion of the naphtha. Upon this the plaintiff sued the defendant for damages for the non-delivery; and judgment having been allowed to go by default, a writ of inquiry was executed before Mr. Secondary Potter on the 12th of December last. The plaintiff had not tested the naphtha before its sale to Messrs. Hoile. The latter gentleman, however, did test it; and this being done, it was found that this naphtha contained 73 per cent. of benzine, or benzole, valuable for dying purposes, and, at the time of the contract, naphtha, with this per centage of benzine, was worth 6*s.* per gallon, and had gone up still more on account of the sale of articles of a magenta colour. The jury assessed the damages at 537*l.* 10*s.*, being the difference in the sale price of 2*s.* 2*d.* and 5*s.* 9*d.* Mr. Gates had obtained a rule to reduce the damages to the difference between the sums of 2*s.* 2*d.* and 2*s.* 6*d.* Mr. Pearce, the counsel for the plaintiff, now showed cause against that rule. The Court were divided in opinion. Barons Bramwell, Channell, and Wilde being of opinion that the rule should be discharged; and Mr. Baron Martin being of a contrary opinion.

Pharmacy in Pompeii.—The excavations at Pompeii have just been recommenced; and we find it stated in the *Athenæum*, that amongst the first objects discovered were some jars and utensils of a druggist's shop.

A Transatlantic Criticism.—We extract from our New-York contemporary the *Drug Reporter*, the following notice of the sixteenth number of the *Chemist and Druggist*:—"In acknowledging the receipt of the above issue, we take occasion to say that we think it is, in many respects, the best number which has yet appeared. The editor is 'wide awake,' and

supplies us with considerable matter of a decidedly fresh and interesting character. His plans for the New Year—which it is proposed, by the way, to inaugurate with a mammoth issue of *twenty thousand copies*—are set forth in this number, and evidently there will be no falling off in the contents, which have been from the commencement specially readable: *au contraire*, several new topics will be treated here by able professional pens, among others, 'Photographic Chemicals;' an enlargement of the literary contents will be effected; and the superior advantage the publication offers for advertisements likely to interest druggists, will, doubtless, lead to the further development of that department, always exceedingly well patronised by the London trade. The American subscribers are coming in freely, we learn; there would, undoubtedly, be a much larger number were the Post-office charges less onerous. The leader in the present issue pays its respects to Mr. Joseph Ince's article in the London *Pharmaceutical Journal*, entitled, 'A Druggist's Sundry Thoughts,' and pretty well upsets that rather conceited writer's notions; he maintaining that druggists should be druggists, and not venders of the thousand-and-one articles now-a-days regarded as indispensable to the complete stocking of a drug store. There exists a few narrow-minded individuals in this country, we are sorry to say, who talk a great deal about the impropriety of druggists keeping patent medicines, pomades, perfumeries, tooth-picks, brushes, and many other items which come under the head of druggists' sundries. We should like to know how much the business of ninety-nine out of every hundred druggists would be worth if these items were cut off, and they were obliged to rely solely upon their sales of medicines. Insignificant at the best, the business would then become doubly so, and the net annual profit would not go far towards encouraging men of capacity and reliability to engage in or continue it. It sounds well in Pharmaceutical meetings to discourage trading in the class of goods alluded to; and even to go so far as to object to applicants for membership because they sell patent medicines. But we don't think it is in very good grace, considering that all the leading spirits in these Societies who conduct drug shops, deal extensively in these much-abused goods, and while, in fact, several are very largely engaged in pushing them: this remark applies to our American Society. The fact is, druggists have the same desire to make money by their business that possesses other business men, and if the sale of medicines alone amounts to too trivial a business—as it does in most sections—and the public demand patent medicines, brushes, tooth-picks, &c., they will sell them despite all the professional bunkum got off in Pharmaceutical Societies and periodicals to the contrary."

TREATMENT OF WHOOPING COUGH.—Distilled water, 125 grammes; water of orange flowers, 8 grammes; syrup of peony, 30 grammes; syrup of belladonna, 10 grammes; ammonia, 6 drops. A spoonful every hour during four or five days, and afterwards every two hours. —*Repertoire de Pharmacie.*

REMEDY FOR ASTHMA.—℞ Potassii Iodid, 3 ij.; Ext. Lobelia fluid, ℥ j.; Aquæ font, ℥ xv. M. Fiat Solut. Dose—A tablespoonful to a wineglassful three times a day.—*Dr. J. H. Simms, of Wilmington, Delaware.*

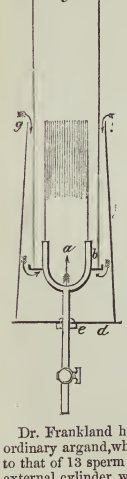
DETERMINATION OF EGGS BY SPECIFIC GRAVITY.—The following facts have been established by a series of experiments performed by M. J. Labiche, of Louviers:—

1. Newly-laid eggs have not all the same sp. gravity (placed in a solution of chloride of sodium, sp. gr. 1060, some sink, and others swim.) 2. Every egg that falls to the bottom of a solution of chloride of sodium, sp. gr. 1040, can be used in cooking; those that float *in* the liquid are not sufficiently fresh for that purpose; those that swim *on* the surface are spoiled.—*Jour. de Chem. Med.*

IN THE DRUG MARKET business has been, to a fair extent, at pretty steady prices. Jalap is 2*d.* and 3*d.* dearer; sales made at 4/8 and 4/10. Turkey opium steady, at 17/6 to 18/6 for good and fine. A good quantity of castor oil has been disposed of at previous prices; good and fine pale seconds, 5½*d.* to 6½*d.* Oil of aniseed is 3*d.* and 4*d.*; lower sales made at 7*l.* Oil of cassia is also 9*d.* cheaper; several cases sold at 10*l.* Java cubebs have declined to 7*l.* to 7*l.* 5*s.* Crown and grey, as well as flat and quill, barks brought steady prices. Several parcels of balsam of capivi sold at 1/11 and 2/1. Some cod-liver oil realized 4/ for middling up to 6/ for good. A large parcel of Tinnevelly senna sold at firm prices; middling to fine bright, 4½*d.* to 10*d.*, and inferior, 2½*d.* to 3½*d.* Shellac has fallen 30/ to 60/. Gums Arabic and Benjamin are without change. Some Singapore Dammar sold at lower prices. Rhubarb was bought in at firm rates. Bees'-wax was steady. Good and fine aloes have realized former rates. Nux vomica is 1/ to 1/6 lower, good quality selling at 9/6 and 10/6. Refined camphor was bought in at 1/10½. Ipecacuanha is held for former rates. Cardamoms steady; Malabar, 4/6 to 4/8, and Madras, 3/9 to 4/4. Honey was chiefly bought in. A few lots of otto of roses, pure, sold at 23/. Scammony, part sold at 20/ and 28/. A large parcel of Tonquin musk sold at good prices, from 29/ to 33/. China galls sold at 32/6 and 33/6. Sarsaparilla without change. Linseed oil is rather better; sales made at 28/3 and 28/6. Rape oil is rather firmer; refined foreign, 40/ and 41/, and very fine French, 42/6 and 44/ per cwt.

DR. FRANKLAND'S DOUBLE CYLINDER GAS BURNER.

The exceedingly ingenious burner we are about to describe, is the result of the scientific investigations of Dr. Frankland, Professor of Chemistry at Bartholomew's Hospital. It is well known that in order to obtain the greatest illuminating power from a gas flame. it is necessary to raise it to the highest possible temperature. Under the ordinary conditions in which gas is burnt, this has not been effected, as the air supplied to the burning gas is of the ordinary temperature of the atmosphere. Dr. Frankland has proved by some recently published experiments, that it is easy to use the heat arising from the gas flame itself for the purpose of heating the air employed in its combustion, and he effects this by the exceedingly elegant and simple contrivance shown in the annexed engraving.



Let us suppose *a* to be an Argand burner of the common construction, having a gallery, shown in section *b*, supporting the glass chimney *c*, which should be not less than four inches more than the usual length. A circular disk of plate glass, *d*, is fixed, by means of a collar and screw *e*, about one inch and a half below the gallery, this serves as a support to the conical outer chimney *f*, which is of such a size as to leave a space of about a quarter of an inch broad between itself and the inner chimney at *g*. The outer chimney, *f*, should be of such a length as to reach nearly or quite to the top of the flame, and it must be ground at the bottom, so as to rest air-tight upon the glass plate *d*. It is obvious that when the gas is lighted, the supply of air to the flame can only take place in the direction indicated by the arrows, that is, through *g*, and between the cylinders *f* and *c*. In passing over the intensely-heated surface of the inner cylinder or chimney, the air becomes exceedingly hot, having its temperature raised to 500° or 600° Fahr., and by passing over the upper part of the argand it heats the gas before it issues from the burner. Thus both the gas and the air are highly-heated before combustion, and the result is, that the temperature of the flame is raised to an unusual degree; this gives rise to a great increase of light, which is partly due to the higher temperature of the particles of carbon liberated in the flame, and partly to the fact that at this high temperature the light carburetted hydrogen, which is always present in ordinary coal gas, is decomposed and deposits its carbon, which aids in increasing the illuminating effect; whereas, under ordinary circumstances, this gas merely acts as a dilutor of the more carbonaceous heavier gases.

Dr. Frankland has published the following results of experiments with this burner :—An ordinary argand,when consuming three cubic feet and three tenths per hour, gave a light equal to that of 13 sperm candles, each burning 120 grains per hour. The same burner, fitted with external cylinder, with the same consumption of gas, gave a light almost equal to that from 22 sperm candles (exact amount 21·7). In order to produce an amount of light with the external cylinder equal to that afforded by the consumption of three and three tenths cubic feet per hour by the ordinary burner, only two and two-tenths cubic feet were required, showing a saving of precisely one-third.

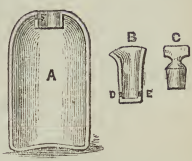
It may perhaps afford a better view of the results if we subjoin the following table :—

	Rate of consumption per hour			Sperm candles, each burning 120 grs. per hour.
Argand burner, without external cylinder.	3·3	cubic feet, light equal to that of		13
	3·7	,,	,,	15·5
	4·2	,,	,,	17
Same burner, with external cylinder.	2·2	,,	,,	13
	2·6	,,	,,	15·5
	2·7	,,	,,	16·7
	3·0	,,	,,	19·7
	3·3	,,	,,	21·7

Thus it will be seen that the new burner saves, on the average of the whole experiments, nearly 50 per cent. of gas when it is so employed to produce an equal amount of light, and that for an equal consumption of gas there is a clear gain of considerably over 60 per cent.

Dr. Frankland, with that liberality that is so characteristic of the man who follows science for its own sake, has placed the results of these experiments at the service of the public at large, and we regard the improvement as well worthy the attention of manufacturers.

TOOGOOD'S SAFETY-DISPENSING BOTTLE.



The principal novelty of this bottle consists in the removable neck, which permits of its being filled, cleaned, and, if necessary, emptied at once with the greatest possible facility.

The bottle is composed of three distinct and separable portions—a body, A; a neck, B; and a stopper, C. The body of the bottle has a straight but downward-pointing rim, with a small hole, F, through which, after cleaning and washing, the bottle may be drained perfectly dry. The *downward* projection of this rim is necessary to prevent the possibility of the bottle being improperly applied, even during a temporary absence of its neck, which is also steadied and fixed by it. The neck, B, has two apertures, D and E, opposite to each other, near the lower end, D, perpendicularly below the lip. When in operation, D allows the fluid to pass out in a fine, continuous stream; while E, then just above it, supplies the interior with the necessary air.

By holding the bottle sideways in pouring out, so as to bring D and E level with each other, the discharge is reduced to *drops* as fluid and air pass out and in simultaneously, and consequently hinder each other most effectually in the performance of their mutual functions.

In exceptional cases, when one or two ounces are wanted at a time, the neck, B, may be removed, and the contents poured bodily into a measure.

This bottle is far superior to the one which Mr. Toogood brought before the notice of the trade some months ago. The greater ease and facility for filling and cleaning will be duly appreciated by every pharmacist.

Correspondence

TRADE-CUTTING.

Sir,—In your December number you have an article on "Cutting." My attention was drawn to it by a neighbouring Chemist, and I must say I felt delighted to find your pages open for communications on a subject so important to those who desire the maintenance of the respectability and welfare of our business.

This system is now painfully noticeable in most parts of the country, but perhaps nowhere is it carried out with more boldness than at the east end of London. Here, men are not satisfied with dispensing a prescription for 8*d.* for which they know the regular charge to be 1*s.*, but actually publish their price-lists in the weekly local papers.

Surely something may be done to arrest this state of things. The business affords but a poor remuneration under the most favourable circumstances, but when thus treated it is of course made much worse. It is not surprising that assistants get badly paid, and it is no wonder that we who refuse to compromise our sense of right, declining to descend to the low prices, should suffer in pocket.

To be constantly told by our customers that they can go to Church Street, Bethnal Green, Crown Street, Finsbury, or elsewhere, and purchase their articles at about two-thirds the generally recognised price, is indeed trying, and particularly when we couple to this the fact that by these cutting-men are our neighbourhoods drained of pretty nearly all prescription customers, as well as of those who are consumers of manufacturing chemicals, &c.

There can be nothing said against a man's striving hard to increase his business, so long as he has recourse to straightforward, respectable means; but as soon as he begins the plan of underselling, whether openly or secretly—the latter being the more contemptible—he certainly forfeits the respect of his fellow Chemists.

Hoping the above remarks will call forth others of a more practical kind, and that ere this subject is allowed to subside we may be refreshed with the assurance that "Cutting" has no supporters in the business of a Chemist and Druggist,

A PHARMACEUTICAL CHEMIST.

Sir,—Your correspondents, "Fair Price" and "An Assistant," have somewhat outweighed my remarks relative to Trade Cutting. If they will refer to the passage they will find it does not *entirely* exonerate the Pharmaceutist from this unprincipled system. They will find it worded thus:—"For the charge cannot be brought *so strongly* against those who compose that class." Taken in the sense it is there intended to convey, it refers to the actual Pharmaceutist—one who has gone through the whole curriculum as laid down by the Pharmaceutical

Society. Your correspondents are aware that a vast difference exists between such a one and the "Pharmaceutical Chemist," who is so by name only. I can sympathise with "An Assistant," for not half a mile from this business dwells a Druggist who dispenses medicine—if dispensing it can be called—at the rate of 10*d.* per ℥viii bottle.

I have the honour to be, Sir,
Yours, &c.,

One in the Trade.

Assistants in Montreal.

Sir,—An assistant wishes to know the condition and prospects of drug clerks in Montreal. Being an emigrant myself, you will, perhaps, allow me to enlighten him.

In the first place, the drug business here is very different to the business at home, and as two-thirds of the people are French, he, of course, must either speak French before he comes, or learn it when he gets here; and necessarily being a "griffin," for the first year or two cannot reasonably expect advantageous engagements.

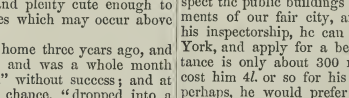
In the second place, there are only a dozen stores in the city, all of whom engage their hands by the year, from May to May; and out of the dozen there are only four or five places where he would even stand half a chance of an engagement.

And in the third place, the supply at present is more than equal to the demand, and owing to the system of apprenticeship here, there is generally a supply of home-made material to the manner born, and plenty cute enough to fill up any vacancies which may occur above them.

I came out from home three years ago, and landed in January, and was a whole month "padding the hoof," without success; and at last, by the merest chance, "dropped into a berth," and as the greatest qualification required was to push off Yankee patent medicines, any three years' English apprentice could have filled it just as well. With regard to salary, taking into consideration the expense of living and the great expense of clothing, and the difference between currency and sterling, I think that assistants here (except in particular instances) are about on a par with the same unfortunate class at home. The hours in Montreal are rather long: in the winter from eight in the morning till eight at night, and in the summer from half-past seven or eight until half-past eight and nine at night.

With regard to the prospects of obtaining a berth, I can only say that during the past year, three druggists' assistants have called upon me; they had all tried their best at obtaining a berth in the city, and had all failed. The first, I believe, "shunted off the track" for want of funds, and brought up in an office, where he is now quill-driving for four dollars a week. The second, who was a first-class man, and had lived in London, Brighton, and Cheltenham, was obliged to push on to New York, where he got employment at a poor salary, and works from eight in the morning till nine at night, and every other Sunday into the bargain; and the third was last week earning a living by taking orders for books, &c. So that your correspondent had better bring a supply of cash if he comes, which will be very useful to him when his landlady begins to wonder whether his box, or rather its contents, would pay his month's board; besides, he will feel much more independent then, and will be able to make himself ornamental until the time arrives for him to make himself useful. Anyway, if he makes up his mind to visit Montreal, I can assure him he will have plenty of time to inspect the public buildings and out-door amusements of our fair city, and when he resigns his inspectorship, he can take a trip to New York, and apply for a berth there. The distance is only about 300 miles, and will only cost him 4*l.* or so for his passage-money; or, perhaps, he would prefer a trip to Toronto: it would only cost him 2*l.* 10*s.*, and, perhaps, he might get a place there. Anyhow, his purse would be lighter to carry.—I am, yours, &c.,

Bonhomme Fairchaud.



Chlorodyne.—"A Country Chemist" writes to us:—Perhaps some of your correspondents would kindly inform me through the medium of your invaluable Journal how (in the preparation of Chlorodyne) to incorporate the chloroform with the other ingredients, for I have made it according to Dr. Ogden's formula, and neither does the morph. acet. or mur. dissolve in the acid. perchlor., nor does the Chlorodyne look anything like that prepared by Davenport; I think there must be an error in the proportion of the theriacæ.

[In our last, we published a note by Mr. John Butterworth, of Boston, Mass., relating to the preparation of Dr. Ogden's Chlorodyne. The writer stated, that by substituting acetate of morphia for the muriate, he had obtained a perfect compound.]

Glycerin.—"Chemist and Druggist" (Bolton), requests us to explain in a few words the medicinal properties of Glycerin. Doctors differ respecting the effects of this substance on the system when taken internally, but they agree in regarding it as a valuable *excipient*,—an

excipient which appears to hold a place between water and oil, for it participates in most of the qualities of both. Glycerin unites as well with aqueous and alcoholic liquids as it does with lard, ointments, pomades, and soaps. It may be used as a base for liniments, and may be added to extracts, tinctures, and medicinal wines. When mixed with any active medicinal agent, its lenitive sedative properties may prepare the tissues, by softening them, for the absorption of the medicinal substance. Glycerin has been tried as a substitute for cod-liver oil in phthisis, but the opinions of medical men as to its efficacy as a remedy in this disease are divided. Dr. Cotton, Physician to the Brompton Hospital for Consumption, says that it will bear no comparison to cod-liver oil. Nitro-glycerin, or Glonoine, formed by the action of nitric and sulphuric acid, is a terrible poison, half a drop being sufficient to produce death; this peculiar compound, so unlike the harmless inert substance from which it is produced, is administered in exceedingly minute doses by homœopathic practitioners as a remedy for nervous affections. As an external application in diseases of the skin Glycerin is justly prized. Mr. Startin states that he has employed it in some 15,000 cases at the hospital under his care, and has found it a most useful *palliative*. In diseases of the ear this substance has been employed with good results. In the treatment of some diseases incidental to the organ of vision, a mixture of glycerin and extract of belladonna is used to dilate the pupil; the glycerin does not effect this object, but it keeps the skin soft and pliable while the belladonna does its work. Applied to burns or other wounds it keeps them from the air, and maintains the suppleness of their edges. When added to cataplasms, it preserves their softness, and what is very important, it prevents them adhering by their edges to the surfaces on which they are placed.

Manures.—"J. B." (Devizes), wishes to know how bones are prepared for manure, and suggests that we should give our readers some information on agricultural chemistry. 1. J. B. will find in our number for December, 1859, a very valuable paper on the use of bones in agriculture. 2. Some articles on the subject to which he refers are in preparation, and will be published shortly.

A Legal Query.—"Nemo" writes, "1. Is any one at liberty to make and sell 'Phosphor Paste?' (Roth and Ringeisen call theirs 'Patent.') 2. Is any one at liberty to make and sell 'Night Lights?' (Price's are called 'Patent.')" [Our correspondent had better apply to the legal officer of the new Society.]

"Bonaccord" of Aberdeen, writes as follows:—"Some time ago you gave a formula for Holloway's Pills, can you oblige me with one for the Ointment. Would it answer for you to give the analysis of the most notorious patent medicines? I think it would gratify a large number of your readers. I am very much pleased to see you giving a series of articles on photo-chemicals, and trust you will give some good recipes for the preparations of collodion, varnish, dry colours, &c." [Perhaps some of our readers can supply the above formula. The other recipes will duly appear.]

Blue-Black Ink.—"A. M." (Edinburgh). Dissolve cerules-sulphate of potash (the blue carmine or soluble indigo of commerce) in hot water, and when cold decant the clear portion. It is an intense blue and dries nearly black; it is perfectly incorrosive, and very permanent and easy flowing. A little gum may be added if required, to prevent the writing fluid spreading on the paper.

Arsenical Soap.—"J. T." (Narberth). This preparation is used to preserve the skins of birds and other small animals. Take of carbonate of potash 12 oz.; white arsenic, white soap, and air-slacked lime, of each 4 oz.; powdered camphor, ¾ oz. Add sufficient water to form a paste.

Olefiant Gas.—"J. N." (Carlisle). One volume of olefiant gas requires three volumes of oxygen for its combustion. A cubic inch of atmospheric air contains 2081 of oxygen, consequently, one cubic inch of olefiant gas will require 14·42 cubic inches of air for its combustion, and not 9 inches as you suppose.

Uric Acid.—"J. W." We are not aware that this substance has been yet applied to any useful purpose. Any good operative chemist will supply you with it at 3s. or 4s. per oz.

Trees may be pruned at any time, without danger, by simply covering the cut parts with shellac varnish.

Refined coal oil is a solvent of gutta-percha and india-rubber.

Chemical researches by Mr. J. Salisbury, of Albany, show that good varieties of the apple are richer in those substances which strictly go to nourish the system than potatoes are; or, in other words, to form muscle, brain, nerve; and in short, to assist in sustaining and building up the organic part of all the tissues of the animal body.

Ether, whose boiling point is 100 deg., and which almost boils with the heat of the hand, cannot be induced to rise above 95 deg. when thrown into a crucible heated to whiteness in a smith's forge.

A vegetable substance resembling sheets of flannel is frequently found on the sea shore of Long Island.

If ordinarily boiling liquids be thrown into a red-hot crucible, they cease to boil.

Thursday, Feb. 14.

THE rate of discount by the Bank of England was steadily maintained at 7 per cent. all the month, till this morning, when a pressure of bills caused the Directors to advance the rate to 8 per cent. Business in all departments has been exceedingly dull throughout the month, and the further advance will necessitate buyers, both here as well as at the outports, to limit their operations to their most urgent wants. As the rate of Exchange at New York has advanced to 106½ to 107, we may look shortly for some supplies of bullion from that port. Consols closed this afternoon at 91½—⅝ for money, and 91⅞—92 for the account, by about ⅜ per cent. fall from yesterday's prices.

We have to note a very dull month in chemicals, business continuing to be quite of a retail character, at prices in favour of the buyer. Tartaric acid has declined to 1/11½, at which price there are sellers. Citric is of slow sale, at 2/1. Iodine is cheaper; Hughes' No. 1. is now 5*d.*, and seconds 4¾*d.* Prussiate of potass is dull at 1/2½*d.* and sal acetos 10½*d.* A few sales have been made in chlorate of potass at 10¼*d.* Oxalic acid remains dull at 8¾*d.* and 9*d.* Soda ash is lower, sales at 2¼*d.* and 2½*d.* Soda crystals are lower, £4. 15*s.* 4*d.* ship. Some good Cape Argol sold at 90/ and 96/. Cream of tartar, fine, dull at 135/. A fair business has been done in flour of brimstone at 16/3 and 16/6. Rough is quiet at £9. 5*s.* Sulphate of copper has been sold at 32/6 and 33/. Sulphate of ammonia dull, at 14*s.* 6*d.* to 15*s.* Epsom salts 8/ and 8/3, and fine Glauber 5/6. Refined saltpetre 40/, and white arsenic in lump 18/ per cwt. Pot and pearl ashes no change. American spirits of turpentine 31/6, and Engilsh 30/6, 31/.

(Our remarks on the Drug Market will be found at bottom of page 59.)

PRICE CURRENT.

☞ *These quotations are the latest for* ACTUAL SALES *in Mincing Lane. It will be necessary for our retail subscribers to bear in mind that they cannot, as a rule, purchase at the prices quoted, inasmuch as these are the* CASH PRICES IN BULK. *They will, however, be able to form a tolerably correct idea of what they ought to pay.*

	1861.			1860.		
	s.	d.	s. d.	s.	d.	s. d.
ARGOL, Cape..per cwt.	90	0	..107 0	95	0	..115 0
French	60	0	..85 0	40	0	..60 0
Oporto, white	0	0	.. 0 0	0	0	.. 0 0
red	50	0	..52 0	46	0	..48 0
Sicily	85	0	..92 6	75	0	..80 0
Naples, white	85	0	..90 0	0	0	.. 0 0
red	0	0	.. 0 0	0	0	.. 0 0
Florence, white	95	0	..105 0	90	0	..100 0
red	95	0	..97 6	85	0	..95 0
Bologna, white 125		0	..130 0	120	0	..125 0
ARROWROOT, duty 4½d. per cwt.						
Bermuda ....per lb.	1	1	.. 1 5	1	3	.. 1 7
St. Vincent	0	2	¾.. 0 7	0	2	¾.. 0 6¾
Jamaica	0	2	¼.. 0 6	0	2	.. 0 5½
Other West India ..	0	2	.. 0 5½	0	2	.. 0 5¼
Brazil	0	1	¼.. 0 2½	0	1	¾.. 0 2¼
East India	0	1	¾.. 0 2½	0	1	¾.. 0 3
Natal	0	2	½.. 0 6½	0	3	¼.. 0 7¾
Sierra Leone	0	2	¼.. 0 3½	0	2	¼.. 0 3¼
ASHES,.....per cwt.						
Pot, Canada, 1st sort	31	0	.. 0 0	32	0	..33 0
U. S., 1st sort	0	0	.. 0 0	0	0	.. 0 0
Pearl, Canada, 1st sort	31	6	.. 0 0	32	0	..32 6
U. S., 1st sort	0	0	.. 0 0	0	0	.. 0 0
BRIMSTONE,						
rough .....per ton	£9	10	.. 0 0	£8	10	.. 9 0
roll	14	0	.. 0 0	11	10	..12 10
flour	16	5	..16 10	14	10	.. 0 0
CAPERS,						
French.....per cwt.	£3	0	..£5 0	£3	10	..£6 15

	1861.			1860.		
	s.	d.	s. d.	s.	d.	s. d.
CHEMICALS						
Acid—Acetic, per lb.	0	3¾	.. 0 4	0	4	.. 0 4½
Citric	2	1	.. 0 0	2	2¾	.. 2 3
Nitric	0	5	.. 0 5½	0	5	.. 0 5½
Oxalic	0	8¾	.. 0 9	0	8¾	.. 0 0
Sulphuric	0	0¾	.. 0 1	0	0¾	.. 0 1
Tartaric, crystal	1	11¾	.. 0 0	2	0	.. 0 0
powdered .	2	0	.. 2 0¾	2	0	.. 0 0
Alum .....per ton	£6	10	£7 0	£7	5	£7 10
powder	7	12	.. 7 15	8	10	.. 0 0
Ammonia, Carbon, lb.	0s.	5½d.	0 6d.	0s.	6d.	0 6¾
	£	s.	£ s.	£	s.	£ s.
Sulphate ..per ton	14	0	..15 0	13	0	..15 0
Antimony, ore.....	16	0	..17 0	16	0	..18 0
crude, per cwt..	30s.	0d.	0s. 0d	36s.	0d.	38s. 0d
regulus	50	0	.. 0 0	50	0	.. 0 52
French star	51	0	.. 0 0	50	0	.. 0 0
Arsenic, lump	17	0	..18 0	18	0	.. 0 0
powder	8	3	.. 8 6	11	0	..11 6
Bleaching Powder ..	10	0	..10 3	12	0	..12 6
Borax, E. I. refined..	35	0	..45 0	44	0	..64 0
British	65	0	.. 0 0	65	0	..70 0
Brimstone, roll.....	14	0	.. 0 0	11	10	..12 10
flour	16	3	..16 6	14	0	..14 10
Calomel .....per lb.	2	0	.. 0 0	2	10	.. 0 0
Camphor, refined ..	1	10	.. 2 0	2	11	.. 0 0
Copperas, green, pr tn.	60	0	..65 0	65	0	.. 0 0
Crrsiv. Sublimate, lb.	2	0	.. 2 1	2	1	.. 0 0
Green, Emerald, pr lb.	0	9	.. 1 0	0	9	.. 1 0
Brunswick, cwt..	1	4	.. 0 42	0	14	.. 0 42
Iodine, dry ..per oz.	0	4¾	.. 0 5	0	6¾	.. 0 6¾
Ivory Blk. drop pr. ct.	0	0	.. 0 0	0	0	.. 0 0

PRICE CURRENT—*continued.*

CHEMICALS.	1861. s.	d.	s.	d.	1860. s.	d.	s.	d.
Magnesia, Carbon. ct.	42	6	..47	6	42	6	..45	0
Calcined, lb.....	1	6	.. 2	0	1	6	.. 0	0
Minium, red, per cwt.	23	6	.. 0	0	23	6	..24	6
orange	34	0	.. 0	0	36	0	.. 0	0
Potash, Bichrom., lb.	0	10½	.. 0	0	0	11	.. 0	11½
Chlorate.....	0	10½	.. 0	0	1	0	.. 0	0
Hydriodate ..oz.	0	5½	.. 0	6	0	7	.. 0	7½
Prussiate ....lb.	1	2½	.. 0	3	1	3	.. 1	4
red..	2	0	.. 2	1	1	3	.. 0	0
Precipitate, red per lb.	2	10	.. 0	0	2	10	.. 2	11
white....	2	10	.. 0	0	2	10	.. 0	0
Prussian Blue	1	6	.. 1	10	1	6	.. 1	10
Rose Pink ..per cwt.	29	0	..30	0	29	0	..30	0
Sal-Acetos....per lb.	0	10½	.. 0	0	0	11	.. 0	0
Ammoniac, cwt.								
British ..	32	0	..34	0	32	6	..34	6
Epsom	8	0	.. 8	3	8	0	.. 0	0
Glauber	4	0	.. 5	6	5	0	.. 5	6
Saltpetre, refined....	40	0	..41	0	40	6	..42	0
Soda, Ash, per degree	0	2½	.. 0	2¾	0	2½	.. 0	3
Bicarbonate ...cwt.	13	6	.. 0	0	15	6	..16	0
Crystals....per ton	£4	15/	.£0	0/	£5	5/	.£5	7/6
Sugar Lead, white, ct.	38s.	0d.	0s.	0d.	38s.	0d.	39s.	0d.
brown.....	28	0	.. 0	0	28	0	.. 0	0
Sulphate Quinine, oz.								
British in bottle ..	8	2	.. 8	6	5	10	.. 6	0
Foreign	7	6	.. 0	0	5	6	.. 0	0
Sulphate Zinc ...cwt.	14	6	..15	0	14	0	.. 0	0
Verdigris .....lb.	1	3	.. 1	5	1	8	.. 2	0
Vermillion, English..	3	0	.. 3	4	3	6	.. 3	4
China....	2	9	.. 3	0	3	9	.. 4	0
Vitriol, blue or Roman								
per cwt..	33	0	..33	6	35	0	..35	6
CHICORY....per cwt.								
Foreign (duty, 6s.) ..	13	0	..18	6	8	6	.. 9	0
COCHINEAL...per lb.								
Honduras, black....	3	0	.. 4	10	3	9	.. 5	6
silver	2	8	.. 3	4	3	3	.. 3	11
pasty	2	3	.. 2	7	2	10	.. 3	2
Mexican, black.....	3	0	.. 3	6	3	6	.. 4	0
silver.....	2	7	.. 2	10	3	3	.. 3	5
Lima	3	0	.. 3	9	3	3	.. 4	0
Teneriffe, black	3	0	.. 4	0	3	7	.. 4	0
silver	2	8	.. 2	10	3	4	.. 3	7
COCOA (duty 1d. per lb.)								
Trinidad, red, in bond....per cwt.	67	0	..80	0	70	0	..88	0
gray	63	0	..68	0	67	0	..70	0
Grenada.....	61	0	..66	0	54	0	..62	0
Dominica & St. Lucia	58	0	..62	0	57	0	..60	0
Para	60	0	..64	0	60	0	..65	0
Bahia	54	0	..58	0	45	0	..46	0
Guayaquil	66	0	..67	0	72	0	..75	0
COFFEE, in bond (duty 3d. per lb.)								
Jamaica, good, mid. to f.....	73	0	.100	0	72	0	..90	0
low mid. & mid.	66	0	..72	0	62	0	..70	0
fine ordinary ..	63	0	..65	0	59	0	..62	0
good ordinary ..	60	0	..62	0	57	0	..58	0
ord. and triage..	50	0	..58	0	42	0	..56	0
Ceylon, Nat. gd. & f.	62	0	..64	6	58	0	..63	0
ordinary	57	0	..61	6	52	0	..57	0
Plantation, fine..	85	0	..88	0	88	0	..92	0
fine mid.	77	0	..84	0	79	0	..84	0
good mid.	72	6	..76	0	75	0	..78	0
middling'....	68	0	..72	0	70	0	..74	0
fi. ord. to low md.	65	0	..67	6	64	0	..69	0
mixed and triage	50	0	..63	0	47	0	..65	6
Malabar and Mysore	58	0	..78	0	57	0	..78	0
Madras	58	0	..76	0	58	0	..76	0
Tellicherry	64	0	..90	0	62	0	..88	0
Mocha, fine 112	0	120	0	120	0	130	0	
garbled	93	0	110	0	92	0	115	0
ungarbled	82	0	..90	0	82	0	..85	0
Batavia, yellow	63	0	..76	0	65	0	..77	0
pale and mixed..	58	0	..62	0	54	0	..64	0
Sumatra.....	52	0	..56	0	48	0	..50	0
Padang	55	0	..61	0	50	0	..57	0
African	70	0	..85	0	0	0	.. 0	0
Brazil, f. ord. & wshd.	60	0	..70	0	59	0	..70	0
good ord.	55	0	..60	0	53	0	..58	0
ordinary	52	0	..54	6	47	0	..52	6

COFFEE.	1861. s.	d.	s.	d.	1860. s.	d.	s.	d.
La Guayra	60	0	..76	0	57	0	..78	0
Costa Rica, mid. to f.	67	0	..80	0	66	0	..78	0
good and f. ord.	60	0	..66	0	59	0	..65	0
Cuba, mid. to fine ..	67	0	..80	0	68	0	..78	0
f. ord. & f. f. ord.	63	0	..66	0	62	0	..66	0
ord. & good ord.	57	0	..62	0	55	0	..61	0
Porto Rico	60	0	..78	0	58	0	..78	0
St. Domingo.....	58	0	..65	0	52	0	..59	0
DRUGS,	£.	s.	£.	s.	£.	s.	£.	s.
Aloes, Hepatic, pr.cwt.	3	10	.. 9	10	3	10	.. 9	0
Socotrine	6	0	..24	0	5	10	..25	0
Cape, good.....	2	7	.. 2	12	1	15	.. 1	19
inferior ..	1	10	.. 2	5	1	2	.. 1	15
Barbadoes.....	2	0	..24	0	2	0	..22	10
Ambergris, gray, p.oz.	34s.	0d.	40s.	0d.	30s.	0d.	35s.	0d.
Angelica Root, pr.cwt.	35	0	..42	0	35	0	..42	0
Aniseed, China star..	70	0	..80	0	95	0	..100	0
German, &c.	32	6	..42	6	32	0	..42	6
Balsam, Canada, pr.lb.	1	3	.. 0	0	0	9	.. 1	0
Capivi	1	10	.. 2	2	1	10	.. 1	11
Peru.....	4	8	.. 0	0	4	7	.. 4	8
Tolu.....	3	8	.. 3	9	3	10	.. 4	0
Bark, Cascarilla, cwt.	24	0	..49	0	30	0	..45	0
Peru.crwn.&gry.pr.lb.	1	7	.. 2	10	1	4	.. 2	6
Calisaya, flat ..	4	10	.. 5	0	2	8	.. 2	9
quill ..	4	6	.. 4	8	2	6	.. 2	9
Carthagena	1	2	.. 2	0	0	8	.. 1	0
Pitayo	1	6	.. 2	2	0	10	.. 1	10
Red	2	2	.. 6	0	2	0	.. 6	0
Bay Berries, per cwt.	22	0	..40	0	50	0	..52	0
Borax	20	0	..35	0	20	0	..37	0
Tincal	32	0	..50	0	30	0	..45	0
Bucca Leaves ....lb.	0	4	.. 1	3	0	4½	.. 1	0
Burgundy Pitch, p.cwt.	0	0	.. 0	0	0	0	.. 0	0
Camomile Flowers..	45	0	110	0	95	0	155	0
Camphor, China....	170	0	175	0	175	0	180	0
Canella Alba.....	22	0	..44	0	25	0	..45	0
Cantharides ..per lb.	2	6	.. 2	8	2	9	.. 3	0
Cardmms. Mibr. good	4	7	.. 4	9	4	8	.. 5	0
inferior ..	4	0	.. 4	6	4	0	.. 4	6
Madras ..	3	7	.. 4	4	3	7	.. 4	7
Ceylon ..	3	6	.. 3	10	2	8	.. 3	4
Cassia Fistula, pr.cwt.	28	0	..38	0	22	0	..27	0
Castor Oil, 1st pale, lb.	0	5½	.. 0	6½	0	6½	.. 0	7½
second	0	5½	.. 0	5½	0	5½	.. 0	6½
infr. and dark	0	4½	.. 0	5	0	5	.. 0	5½
Bombay, in casks	0	4	.. 0	4½	0	3½	.. 0	4½
Castorum	1	0	..28	0	5	0	..20	0
China Root..per cwt.	9	0	..10	0	9	0	..10	0
Coculus Indicus	14	0	..17	0	10	0	..11	0
Cod-liver Oil, per gal.	4	0	.. 6	0	4	9	.. 7	0
Colocynth, apple, lb.	1	10	.. 1	4	0	10	.. 1	2
Colombo Root, per cwt.	15	0	..47	6	10	0	..30	0
Corosus Nuts, per cwt.	15	0	..27	0	22	0	..27	0
Cream Tartar, per cwt.								
French	135	0	.. 0	0	132	6	140	0
Venetian	137	6	.. 0	0	140	0	145	0
gray	122	6	125	0	122	6	125	0
brown.....	115	0	120	0	110	0	115	0
Croton Seed.....	80	0	.. 90	0	75	0	..90	0
Cubebs	140	0	150	0	280	0	290	0
Cummin Seed.....	26	0	..40	0	28	0	..30	0
Dividivi	12	0	..13	0	11	0	..12	0
Dragon's blood, reed.	£7	0	£14	0	£7	0	£15	0
lump	5	0	..13	0	5	0	..13	0
Galangal Root.....	1	6	.. 1	8	1	13	.. 1	15
Gentian Root	0	14	.. 0	15	0	15	.. 0	0
Ginger, preserved, in bd.	s.	d.	s.	d.	s.	d.	s.	d.
(duty 2d. lb.) per lb.	0	8	.. 0	9	0	10	.. 1	0
Guinea Grains.								
per cwt.	46	0	..49	0	36	0	..40	0
Honey, Narbonne ..	70	0	..95	0	70	0	..90	0
Cuba	40	0	..55	0	32	0	..32	0
Jamaica	45	0	..65	0	26	0	..54	0
Ipecacuanha, per lb..	3	6	.. 3	8	3	6	.. 3	8
Isinglass—								
Brazil.....	1	8	.. 4	0	1	10	.. 4	8
East India	1	4	.. 3	9	1	10	.. 4	6
West India	3	6	.. 3	9	4	0	.. 4	5
Russian, long staple	12	0	..13	0	13	0	..14	0
leaf.....	9	6	..12	0	11	0	..13	6
Simovia..	2	0	.. 2	6	1	6	.. 2	6
Jalap.....	4	4	.. 4	8	3	7	.. 3	9

PRICE CURRENT—*continued.*

DRUGS.	1861. s.	d.	s.	d.	1860. s.	d.	s.	d.
Juniper Berries, p. cwt.								
German and French	9	0	..	9	6	9	0	.. 10	0
Italian	9	0	..	10	0	9	0	.. 10	0
Lemon Juice, per deg.	0	1	..	0	1½	0	0¾	.. 0	0
Lichen Islandicus, lb.	0	0	..	0	0	0	0	.. 0	0
Liquorice... per cwt.									
Spanish	83	0	..	90	0	85	0	.. 95	0
Italian	85	0	..	95	0	95	0	.. 100	0
Macaroni, Genoa, p. lb.	0	3	..	0	6	0	4	.. 0	6
Naples	0	4	..	0	5½	0	4	.. 0	5½
Manna, flaky	3	6	..	4	3	5	6	.. 0	0
small	2	0	..	2	3	2	6	.. 0	0
Musk ... per oz.	26	0	..	33	0	21	0	.. 27	0
Myrabolans, per cwt.	8	6	..	11	0	8	6	.. 12	0
Nux Vomica	9	0	..	10	6	12	0	.. 14	6
Opium, Turkey	15	0	..	18	6	18	0	.. 20	0
Egyptian	6	0	..	13	0	6	0	.. 15	0
Orris Root.. per cwt.	28	0	..	31	0	34	0	.. 37	0
Pellitory Root	0	0	..	0	0	0	0	.. 0	0
Pink Root.....per lb.	1	2	..	1	4	1	3	.. 4	0
Quassia (bit. wd.) ton	£4	0	..	0	0	£10	0	£12	0
Rhatania Root . p lb.	0s.	9d.	..	0s.	0d.	0s.	6d.	.. 0s.	7d
Rhubarb, China, rud.	1	0	..	2	4	1	0	.. 2	9
flat..	1	2	..	2	6	1	2	.. 3	0
Dutch, trimd.	3	3	..	3	6	3	3	.. 3	6
Russian	11	6	..	0	0	13	6	.. 14	0
Saffron, Spanish	54	0	..	57	0	47	0	.. 0	0
Salep.....per cwt.	£13	0s.	£14	0	£10	0	£13	10	
Sarsaparilla, Lima	0s.	10d.	..	1s.	2d	0s.	10d.	.. 1s.	1d
Para	0	10	..	1	2	0	11	.. 1	1
Honduras	0	11	..	1	6	0	11	.. 1	5
Jamaica	1	3	..	2	5	1	3	.. 2	7
Sassafras....per cwt.	10	0	..	12	0	9	0	.. 10	0
Scammony .. per lb.									
virgin	28	0	..	34	0	30	0	.. 33	0
second	14	0	..	24	0	14	0	.. 26	0
Seedlac	55	0	..	70	0	35	0	.. 50	0
Seneka Root.....	2	2	..	0	0	2	0	.. 2	2
Senna, Calcutta	0	1½	..	0	3	0	2	.. 0	2½
Bombay	0	2¾	..	0	3½	0	2	.. 0	3¾
Tinnevelly	0	3¼	..	0	10	0	4	.. 0	6¾
Alexandria	0	4	..	0	6	0	4	.. 0	6
Shellac, orgnge, pr. ct.	180	0	..	190	0	160	0	.. 175	0
liver & garnet.	150	0	..	160	0	155	0	.. 177	6
block	120	0	..	145	0	150	0	.. 162	6
bttn. dk. to mid.	140	0	..	150	0	135	0	.. 145	0
good and fine.	160	0	..	170	0	150	0	.. 175	0
Snake Root	1	2	..	1	3	0	10	.. 0	0
Spermaceti, refined..	1	3	..	1	4	1	10	.. 0	0
Squills	0	1	..	0	2	0	1½	.. 0	3
Sticklac	65	0	..	97	6	60	0	.. 75	0
Tamarinds, E. India.	8	0	..	12	0	9	6	.. 11	6
W.I. per cwt.	16	0	..	35	0	15	0	.. 40	0
Terra Japonica,									
Gambier.. per cwt.	17	3	..	18	0	16	0	.. 16	3
Cutch	24	6	..	25	0	28	0	.. 0	0
Valerian Root, Engl.	20	0	..	40	0	20	0	.. 40	0
Vanilla,									
Mexican .. per lb.	30	0	..	70	0	40	0	.. 80	0
Brazil.....	0	0	..	0	0	14	0	.. 20	0
Wormseed ..per cwt.	20	0	..	0	0	23	0	.. 0	0
FARINA, Scotch	20	0	..	25	0	16	0	.. 16	6
GUM .....per cwt.	£.	s.	£.	s.	£.	s.	£.	s.	
Ammoniac, drop	2	10	..	5	0	2	15	.. 5	0
lump....	1	15	..	1	15	1	0	.. 2	0
Animi, fine pale	15	0	..	16	0	14	10	.. 15	10
bold amber ..	13	0	..	14	10	12	0	.. 14	0
medium	9	0	..	11	11	7	10	.. 10	10
small & dark.	5	0	..	8	5	4	0	.. 6	10
ordinary dark	2	10	..	5	0	2	10	.. 5	0
Arabic, E.I.f.palepicked	2	13	..	3	0	2	15	.. 3	0
unsorted, good to f.	1	18	..	2	10	1	15	.. 2	8
red and mixed	1	8	..	1	15	1	2	.. 1	10
siftings	0	0	..	0	0	0	18	.. 1	3
Turkey, pkd. gd. to fi.	5	10	..	7	10	5	10	.. 7	10
second & infr.	2	2	..	5	5	2	5	.. 5	0
in sorts	1	10	..	2	3	1	9	.. 1	18
Gedda	1	6	..	1	7	1	4	.. 1	5
Barbary, white.....	1	11	..	1	13	1	10	.. 0	0
brown	1	9	..	1	10	1	9	.. 1	10
Cape	0	16	..	0	18	0	16	.. 0	18
Assafœtida, fair to gd.	1	0	..	5	0	1	5	.. 4	10
Benjamin, first qual.	18	10	..	34	0	18	0	.. 34	0

GUM.	1861. £.	s.	£.	s.	1860. £.	s.	£.	s.
Benjamin, 2nd qual.	8	5	..	16	10	8	10	.. 16	10
3rd „	3	0	..	7	10	3	5	.. 7	10
Copal, Angola red ..	5	0	..	5	15	3	11	.. 3	18
pale..	4	5	..	5	0	3	6	.. 3	10
Benguela	4	10	..	5	10	3	10	.. 3	15
Sierra Leone lb.	0s.	10d.	..	1s.	9d	1s.	0d.	.. 1s.	9d
Manilla, pr. ct.	15	0	..	0	43	0	0	.. 0	0
Dammar, pale, pr. ct.	48	0	..	0	52	0	45	.. 0	47
	£.	s.	£.	s.	£.	s.	£.	s.	
Galbanum.....	7	0	..	9	0	8	0	.. 0	10
Gamboge, pkd. pipe	6	0	..	7	10	5	10	.. 8	10
in sorts ..	4	0	..	5	10	4	0	.. 5	5
	s.	d.	s.	d.	s.	d.	s.	d.	
Guaiacum ....per lb.	0	9	..	1	9	0	10	.. 1	9
Kino ..... per cwt.	95	0	..	120	0	90	0	.. 100	0
Kowrie	22	0	..	26	0	12	0	.. 14	6
Mastic, pkd., per lb..	8	0	..	9	0	8	6	.. 9	6
Myrrh, gd. & fi..pr. ct.	140	0	..	180	0	160	0	.. 230	0
sorts	80	0	..	130	0	90	0	.. 150	0
Olibanum, pale drop.	60	0	..	70	0	45	0	.. 52	0
amber & yellow	40	0	..	54	0	29	0	.. 40	0
mixed & dark..	12	0	..	26	0	10	0	.. 24	0
Senegal	28	0	..	60	0	28	0	.. 35	0
Sandrac.....	90	0	..	110	0	94	0	.. 120	0
Tragacanth, leaf	180	0	..	340	0	190	0	.. 290	0
in sorts ..	100	0	..	130	0	100	0	.. 126	0
LAC DYE, per lb. D. T.	1	10½	..	1	11	1	10½	.. 1	11
B Mirzapore.....	1	7	..	1	8	1	7	.. 1	8
Other good and fine..	1	0	..	2	5	1	1	.. 2	3
Ord. & Native marks	0	2	..	0	11	0	3	.. 0	10
OILS.....per tun	£.	s.	£.	s.	£.	s.	£.	s.	
Seal, pale	30	10	..	40	0	33	0	.. 0	0
yellow	34	0	..	35	0	30	10	.. 31	10
brown	30	0	..	34	0	28	0	.. 29	10
Sperm, body.....	104	0	..	105	0	97	0	.. 99	10
headmatter	105	0	..	106	0	99	0	.. 100	0
Cod.....	37	0	..	38	0	34	0	.. 35	0
Whale, Greenland ..	0	0	..	0	0	37	0	.. 37	5
South Sea, pale	37	0	..	0	0	32	0	.. 0	0
yellow	34	0	..	36	0	30	0	.. 31	0
brown	32	0	..	0	0	27	10	.. 29	0
E. I. Fish	30	0	..	0	0	26	10	.. 27	0
Olive, Galipoli ..tun	61	0	..	0	0	60	0	.. 0	0
Trieste	58	0	..	59	0	52	0	.. 53	0
Levant	57	0	..	57	10	50	0	.. 0	0
Mogadore.....	55	0	..	55	10	50	0	.. 0	0
Spanish	59	0	..	0	0	57	10	.. 0	0
Sicily	58	0	..	0	0	54	10	.. 0	0
Florence, pr. ¼-chst.	0	16	..	0	0	0	18	.. 1	0
Cocoanut, Cochin, tun	52	0	..	0	0	45	5	.. 0	0
Ceylon....	49	0	..	50	0	42	0	.. 43	0
Sydney ..	44	0	..	48	0	42	0	.. 45	0
Ground Nut and Gin.									
Bombay.....	30	0	..	0	0	34	0	.. 35	0
Madras	41	0	..	42	0	41	0	.. 42	0
Palm, fine	46	6	..	47	0	42	10	.. 46	0
Palm Nut	40	0	..	41	0	35	10	.. 36	0
Linseed	28	5	..	0	0	27	10	.. 0	0
Rapeseed, Engl. pale.	39	0	..	0	0	37	0	.. 0	0
brown ..	36	0	..	0	0	36	0	.. 0	0
Foreign do.	40	0	..	44	0	38	10	.. 0	0
brown	37	0	..	0	0	36	10	.. 0	0
Lard	67	0	..	0	0	61	0	.. 0	0
Tallow	32	10	..	0	0	30	0	.. 0	0
Rosin	7	5	..	0	0	6	15	.. 0	0
OILS, Essential;	s.	d.	s.	d.	s.	d.	s.	d.	
Almond, essen. pr. lb.	30	0	..	31	0	30	0	.. 31	0
expressed..	1	0	..	0	0	1	0	.. 0	0
Aniseed	7	0	..	7	1	8	0	.. 0	0
Bay..... per cwt.	122	6	..	0	0	90	0	100	0
Bergamott....per lb.	6	6	..	14	0	6	6	.. 11	0
Cajeputa, bond, pr. oz.	0	1½	..	0	1¾	0	1	.. 0	1¼
Caraway .... per lb.	4	3	..	6	0	4	3	.. 6	0
Cassia.....	10	3	..	6	0	15	6	.. 16	0
Cinnamon (in b.) p. oz.	3	0	..	4	3	3	0	.. 4	0
Cinnamon Leaf	0	1	..	0	2½	0	2½	.. 0	3
Citronel.....	0	5	..	0	5½	0	3¾	.. 0	3½
Clove.....	0	4½	..	0	0	0	2½	.. 0	3¾
Croton	0	3	..	0	4	0	4½	.. 0	4¾
Juniper .....per lb.	1	10	..	4	0	3	0	.. 5	0
Lavender	2	6	..	5	0	2	6	.. 5	0
Lemon	5	0	..	10	0	5	0	.. 11	0
Lemongrass..per oz.	0	6	..	0	7	0	6	.. 0	6½

PRICE CURRENT—*continued.*

	1851.				1850.			
OILS, Essential,	s.	d.	s.	d.	s.	d.	s.	d.
Mace, ex	0	2	..	0	0	1	4	0
Neroli, ex	6	0	..	9	0	6	..	10
Nutmeg	0	1	3	0	2	0	2	3
Orange per lb.	7	0	..	8	0	10	..	11
Otto Roses per oz.	16	0	..	25	0	16	..	26
Peppermint per lb.								
American	7	6	..	15	3	8	..	13
English	35	0	..	43	0	30	..	34
Rhodium per oz.	3	9	..	6	0	3	..	6
Rosemary per lb.	1	10	..	3	0	2	..	3
Sassafras	3	0	..	3	6	3	..	4
Spearmint	5	0	..	12	6	5	..	12
Spike	1	3	..	1	6	1	3	..
Thyme	1	9	..	2	6	2	3	..
PITCH, British, pr. cwt.	6	0	..	6	3	6	0	..
Swedish	10	3	..	0	10	3	..	0
SALTPETRE, per cwt.								
Bengal, 6 p.c. or under	38	9	..	40	0	41	..	42
over 6 per cent.	36	0	..	38	0	37	..	41
Madras	34	6	..	37	0	34	..	38
Bombay	33	0	..	36	0	28	..	33
British-refined	40	6	..	41	0	41	..	42
Nitrate of Soda	14	0	..	15	0	15	..	16
SEED, Canary	40	0	..	52	0	44	..	50
Caraway, English, p.c.	28	0	..	30	0	0	..	0
German, &c.	26	0	..	34	0	30	..	38
Clover, English, red	50	0	..	64	0	54	..	66
white	53	0	..	90	0	84	..	92
Germ. & French, red	54	0	..	64	0	47	..	60
white	70	0	..	90	0	84	..	92
Coriander	14	0	..	17	6	0	..	0
East India	13	0	..	16	0	11	..	12
Hemp	44	0	..	46	0	32	..	34
Linseed, English, p. qr.	70	0	..	75	0	0	..	0
Black Sea and Azof	53	0	..	0	0	50	..	50
Calcutta	52	0	..	53	0	49	..	50
Bombay	55	0	..	56	0	52	..	0
Egyptian	50	0	..	52	0	48	..	0
St. Ptrsbg., Morshnk	50	0	..	53	0	48	..	0
Archangel	45	0	..	47	0	38	..	0
Riga	42	0	..	43	0	0	..	0
Mustard, brown, p. bhl	11	0	..	15	0	10	..	13
white	0	0	..	0	0	11	..	14
Niger	50	0	..	0	0	35	..	36
Poppy, Eal.	40	0	..	0	0	46	..	0
Rape, English	0	0	..	0	0	0	..	0
Danubc	60	0	..	0	0	48	..	0
Calcutta, fine	55	0	..	56	0	46	..	47
Bombay, Guzerat	60	0	..	64	0	53	..	55
Feroze, & Scinde	50	0	..	56	0	46	..	48
Teel, Sesame or Gngly.	56	0	..	64	0	44	..	52
Cotton per ton	7	10	..	0	0	5	0	5
Gnd. Nut Kernels, tn.	300	0	..	310	0	260	0	..
SOAP, Lond. yel. p. cwt.	21	0	..	38	0	21	0	..
mottled	34	0	..	38	0	36	0	..
curd	42	0	..	44	0	32	0	..
Castile	37	0	..	40	0	37	0	..
Marseilles	40	0	..	41	0	40	0	..
SOY, China (per gal.)	2	10	..	3	0	4	0	..
Japan	1	6	..	1	9	0	0	..
SPICES, duty free, except pepper.								
Cassia Liguea, p. cwt.	86	0	..	96	0	98	0	107
Vera	12	0	..	50	0	10	0	24
Buds	..	..	..	190	0	180	0	185
Cinnamon, per lb.								
Ceylon, 1st quality.	1	5	..	2	5	1	7	..
2nd ditto ..	1	2	..	1	8	1	1	..
3rd ditto ..	0	9	..	1	3	0	10	..
Tellicherry	0	10	..	1	0	0	9	..
Cloves, Penang	1	1	..	1	4	1	2	..
Amboyna	0	4	..	5	3	0	4	..
Zanzibar	0	4	..	0	4	3	0	4
Ginger	£	s.	£	s.	£	s.	£	s.
Jamaica, fine pr. cwt.	7	0	..	9	10	8	0	..
ord. to good	3	5	..	6	6	4	0	..
African	36s.	6d.	37s.	6d.	36s.	0d.	37s.	6d.
Bengal	30	0	..	32	0	24	0	..
Malabar	36	0	..	0	0	30	0	..
Cochin	40	0	..	105	0	77	0	..
Mace, 1st qlty. lb.	1	7	..	2	0	1	9	..
2nd. & inf.	0	7	..	1	6	1	2	..
Nutmegs per lb.								
brown Penang, &c.	1	0	..	4	0	1	6	..
limed	1	0	..	2	6	1	3	..

	1851.				1850.			
SPICES,	s.	d.	s.	d.	s.	d.	s.	d.
Pepper (duty 6d. pr. lb.)								
Black, in bond								
Malabar	0	4	..	0	4	3	0	4
Aleppee	0	4	..	0	4	4	0	4
Penang & Batavia	0	3	..	0	3	4	..	0
Singapore	0	3	..	0	4	0	4	3
White, Tellicherry	0	10	..	1	5	0	9	..
Other sorts	0	5	..	0	6	0	7	..
Cayenne	1	1	..	1	8	1	0	1
Pod, S. Leone pr. c.	28	0	..	32	0	24	0	..
Zanzibar	70	0	..	80	0	55	0	..
Long	32	0	..	34	0	35	0	..
Pimento, mid. to good	0	2	..	0	3	0	4	..
ordinary	0	2	..	0	2	0	4	..
SPONGE, Turk. f. pkd.	20	0	..	26	0	20	0	..
fair to good	9	0	..	18	0	9	0	..
ordinary	3	0	..	8	0	3	0	..
Bahama	0	3	..	3	0	3	..	1
TEA (duty 1s. 5d. per lb.) in bond.								
Congou, ordinary	0	10	..	1	0	1	3	..
good ordinary	1	0	..	1	2	1	5	..
but middling	1	2	..	1	4	1	5	..
blackish leaf	1	4	..	1	6	1	6	..
ditto strong	1	7	..	1	8	1	8	..
ditto to extra fine	1	9	..	2	5	2	1	..
Ning Yong and Oolong	1	3	..	2	0	1	7	..
Souchong, ordinary	1	1	..	1	4	1	5	..
fair to fine	1	5	..	1	10	1	7	..
finest	2	0	..	3	2	2	6	..
Flowry Pekoe, ordinary	0	0	..	0	0	0	0	..
fair to good	1	5	..	2	2	2	0	..
fine to finest	3	0	..	5	0	3	0	..
Caper, scented, in bxs.	0	9	..	2	1	1	8	..
Orange Pekoe, plain.	0	11	..	1	4	1	0	..
scented	1	0	..	2	3	1	4	..
Twankay, ordy. Canton	0	0	..	0	0	0	0	..
common to good	0	9	..	1	2	0	10	..
fine to Hyson kind.	1	3	..	1	4	1	3	..
Hyson Skin, common	0	8	..	0	10	0	10	..
good to fine	1	0	..	1	1	1	1	..
Hyson, ordy. to comm.	1	4	..	1	7	1	7	..
fair to fine	1	8	..	2	6	1	9	..
finest	2	9	..	4	6	2	9	..
Young Hys. Boh. kind	0	9	..	0	10	0	7	..
fine to finest	1	0	..	2	5	0	11	..
Imperial	1	0	..	1	2	1	2	..
Gunpowder	0	11	..	3	9	0	10	..
Assam	1	7	..	4	6	1	9	..
TURPENTINE,								
Rough per cwt.	9	1	..	0	3	9	6	..
Spirits, English	30	6	..	0	0	34	0	..
American, in casks	31	6	..	32	0	37	0	..
WAX, Bees, English	£8	5	..	£8	10	£8	5	..
German	8	0	..	8	5	8	0	..
American	9	0	..	10	0	8	15	..
white fine	10	0	..	10	10	10	0	..
Jamaica	9	10	..	10	0	9	0	..
Gambia	9	0	..	0	0	8	10	..
Mogadore	6	10	..	8	0	6	0	..
East India	7	10	..	9	5	7	10	..
ditto, bleached	10	12	..	13	0	9	0	..
vegetable, Japan	2	18	..	3	5	3	5	..
WOOD, DYE, bar, pr. tn.	0	0	..	0	0	3	10	..
Brazil, first quality	70	0	..	75	0	80	0	..
second quality	55	0	..	60	0	60	0	..
logs	20	0	..	21	0	20	0	..
Braziletto	4	0	..	5	10	4	0	..
Camwood	20	0	..	24	0	28	0	..
Ebony, Green	8	0	..	9	0	12	0	..
Fustic, Cuba	8	10	..	9	0	8	15	..
Jamaica	5	10	..	5	15	5	15	..
Savanilla	5	0	..	5	5	5	5	..
Zante	5	10	..	8	0	9	0	..
Logwood, Campeachy	6	10	..	6	15	6	15	..
Honduras	0	0	..	0	0	5	5	..
St. Domingo	5	0	..	5	5	5	0	..
Jamaica	4	15	..	0	0	4	17	..
Nicaragua, lar. & sol.	10	10	..	11	0	12	0	..
small	0	0	..	0	0	6	0	..
Lima, first pile	12	0	..	12	10	13	0	..
second pile	10	0	..	10	10	12	10	..
Red Sanders	5	15	..	9	2	6	7	..
Sapan, Bimas	6	0	..	8	10	8	0	..
Siam, &c.	5	10	..	9	5	7	0	..

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LETTERS PATENT.

DRUGS, CHEMICALS, ETC.

1764 Guffroy, C. C. J., Lille Town, France, improvements in preparing the livers of salt-water fish.

2479 Harron, E. J., Paris, improvements in the manufacture of vegetable albumine.

MISCELLANEOUS.

1412 Croll, A. A., Coleman-street, London, improvements in the purification of gas.

1427 Johnson, W., and Adamson, J., Liverpool, improvements in hydraulic or other like presses, and in the apparatus connected therewith, for extracting oils from seeds.

1507 Baker, W., Sheffield, improvements in the process of softening and purifying lead.

1600 Dumont, C. J. E., Liège, Belgium, improvements in machinery or apparatus for separating minerals and substances of different specific gravities.

1685 Mordan, F., Goswell-road, improvements in bottles, jars, or vessels for holding blacking, and in certain appurtenances thereof, part of the invention being applicable to stoppers for bottles used for other purposes.

1708 Newton, W. E., Chancery-lane, an improved manufacture of waterproof leather.

1732 Eskell, A., Grosvenor-street, Grosvenor-square, improvements in beds or bases for artificial teeth.

1847 Newton, W. E., Chancery-lane, improvements in brushes for the hair or other purposes.

PROVISIONAL PATENTS.

DRUGS, CHEMICALS, ETC.

2075 Calvert, F. C., Manchester, collecting and saving certain products given off or emitted during the manufacture of coke.

2875 Humfrey, C., and Humfrey, C., the younger, Wareham, Dorset, improvements in distilling coal and peat, and bituminous and coaly minerals, and in the treatment of the products therefrom.

2910 Wanostrocht, V., Parkstone, near Poole, Dorset, an improvement in the manufacture of mineral tar.

2956 Leonhardt, A., Berlin, improvements in the preparation of indigo for dyeing and printing, and in obtaining pure or refined indigo.

3010 Mushet, R., Coleford, Gloucester, an improvement or improvements in the manufacture of an alloy or alloys of titanium and iron.

3030 Mushet, R., Coleford, Gloucester, an improvement or improvements in the manufacture of an alloy or alloys of titanium and iron.

3038 Townsend, J., and Walker, J., Glasgow, improvements in treating bye products, arising in the manufacture of soda and potash for the obtainment of antichlores and other useful products.

MISCELLANEOUS.

2508 Goble, G., F., and Hemming, F. S., London, improved machincry for crushing quartz and other substances, and for mechanically and chemically extracting gold from auriferous stones or soils, and for procuring silver, copper, zinc, lead, iron, and other metals from their respective ores or impregnated liquids.

2820 Welton, T., Soho, and Monckton, E. H. C., Regent-street, improvements in the application of electricity or magnetism to the human body, for the relief of pain and cure of disease.

2846 Pochin, H. D., Salford, an improved material for building and other purposes.

2868 Carosin, J. F., the Mauritius, improvements in treating cane trash.

2871 Keirby, E., Greetland, near Halifax, improvements in covering, insulating, and preserving telegraphic wires and cables.

2882 Bowditch, W. R., Wakefield, improvements in the purification of coal gas and of coal oils.

2907 Manton, J. S., and Islip, T., Birmingham, certain improved compositions, useful for many purposes in connection with the arts and manufactures, and in machinery or apparatus to be employed therewith, which machinery or apparatus is also applicable to several purposes of utility.

2909 Robertson, R., Glasgow, improvements in machinery or apparatus for preparing asphalte.

2943 Pelegrin, J., Bordeaux, France, inodorous basins and descent pipes of glass.

2985 Morewood, E., Enfield, Middlesex, improvements in coating metals.

2990 Pratt, J. F., Oxford-street, improvements in instruments for receiving and transmitting sound; particularly adapted to the relief of deafness.

3003 Whebble, J. J., Reading, Berks, improvements in the manufacture of artificial stone for building purposes.

SUPPLEMENT.

UNITED SOCIETY OF CHEMISTS AND DRUGGISTS.

A NUMEROUS and important meeting of chemists and druggists was held at the London Coffee-house, Ludgate-hill, on Wednesday, January 23rd, 1858: Mr. Alderman Dakin in the chair.

The CHAIRMAN, in opening the proceedings, said, a few days since he was requested by a deputation of gentlemen connected with the trade of chemists and druggists to occupy the chair at that meeting. He at once willingly accepted the honour thus offered him, on inquiring into the objects for which the meeting was to be convened, and finding that the whole of them certainly must recommend themselves to, and meet with the approbation of, every individual member of the trade. (Hear, hear.) He particularly asked their intelligent Secretary (Mr. C. F. Buott) whether, in organising a new Society, it was at all contemplated to place it in antagonism to that older and most important institution connected with their professional trade—the Pharmaceutical Society, from which, he was sure, they could not dissociate the name of one who had done so much, whose absence they all felt, and whose loss they all deeply deplored: he referred to Mr. Jacob Bell. (Hear, hear.) The object of the present institution was in no way antagonistic to the Pharmaceutical Society; for if, in the slightest degree, its object would have interfered with that useful body, he should most certainly have declined occupying the chair upon that occasion; but the aim and object of the United Society of Chemists and Druggists was unity of strength and action as a trading community. (Hear, hear.) Now, it appeared there were between 15,000 and 16,000 members of their trade throughout the United Kingdom, and if they took three to be the representative number of those engaged in the 15,000 firms, their body would number something like 45,000 or 50,000 individuals. They all knew very well that uncertain efforts, scattered throughout the country, and producing no effect, would, if directed in one channel, be of material advantage and productive of benefit to all concerned. It was the same with their noble rivers, whose streams were fed and supported by innumerable ornamental rills; and it was only by such agencies and auxiliaries that the mighty stream upon which floats the commerce of the world was supported. (Hear, hear.) That being the case, by directing their efforts into proper channels, they proposed to establish a society for the advancement of the interests of their trade. (Hear, hear.) Now, its first object was to form a benevolent fund for the less fortunate members of the trade. They all knew "the race was not always to the swift, nor the battle to the strong," and therefore the main object of that Society would be to form a benevolent fund for the aid of their less fortunate brethren, which must commend itself at once to the approbation of all. (Hear, hear.) The next was a benevolent object in another direction, and addressed to those who were engaged in the pursuit of their business, urging them, if possible, to reduce the hours of labour, and thus fulfil a duty that they owed to society (hear, hear), and also to relieve those connected with the trade of their Sunday labour, which would be an advantage socially and morally. He was sure, if the public service could be maintained, that both employers and employed would derive a mutual benefit by concentrating the labour over a few hours, instead of, to use a professional term, "diluting" the labour over a much longer period. (Hear.) Then, after briefly reviewing the other objects contemplated, he observed that he was addressing practical men upon the accomplishment of a practical object, and he had no doubt that the Society would meet with the unanimous support which it so richly merited. (Hear, hear.)

Mr. BUOTT (the Secretary), then read several letters from chemists in the provinces, viz., Mr. Banks of Birmingham, Mr. Reinhardt of Hull, Mr. Johnson of Liverpool, Mr. Harrison of Sunderland, Mr. Alfred Smith of Tenterden, and others, who, while regretting, for various reasons, their inability to attend, expressed their good wishes for the welfare of the Society, and offered their hearty co-operation.

Mr. WADE (of Westminster) then proposed the following resolution:—"That the promoters of this Association, feeling impressed with the fact, that so numerous and intelligent a body as the Chemists and Druggists of the United Kingdom have no organisation that fairly represents their interests as a trading community, propose that this Society be formed, and called the United Society of Chemists and Druggists." Though in the presence of friends better qualified, he begged to move that resolution; and in doing so, he wished it to be most distinctly understood that they had no desire in any way to interfere with the objects for which the Pharmaceutical Society was instituted. (Hear.) He was sure they all looked upon that valuable body as one tending to elevate the condition of chemists and druggists, and moreover he believed that the United Society of Chemists and Druggists, in the carrying out

of its various objects, would aid and assist the Pharmaceutical Society. (Hear, hear.) Why, he would ask, should the Pharmaceutical Society object to the United Society of Chemists and Druggists? There was nothing in opposition to it. It would be as reasonable for the College of Physicians to object to the College of Surgeons. Each had its particular business, and neither interfered with the other. The principal question was—Does the Pharmaceutical Society represent the entire body of chemists and druggists? (Cries of "No, no.") Their worthy chairman had told them there were something like 15,000 chemists and druggists in the United Kingdom; he believed he referred to those actually engaged in business. Now, including associates, there were 3,000 pharmaceutists; therefore, if after deducting that number from the 15,000 they justly added those engaged as assistants and apprentices, and also those in wholesale houses, they would see there was a very considerable number totally unrepresented, and without a voice to speak for them if any legislative enactment was introduced that might militate against their rights. (Hear, hear.) The Pharmaceutical Society had the ennobling idea,—although rather visionary,—that chemists and druggists should be merely dispensers of prescriptions, and that they should not condescend to sell what might be called sundries, but should study pharmacy in its simplest forms. Now, that could never be done, seeing that in many districts prescriptions were very rare, and that poverty drove the poor man to the chemist as his friend and doctor. Indeed, in some extreme cases the chemist was the means of saving life; and it was by no means an uncommon case for the poor working man to come to him on a Saturday night in sickness, imploring him, if possible, for the sake of his family, to make him well enough to go to work again on the Monday morning; and he thought it rather hard that the chemist should be condemned for listening to the voice of suffering humanity and ameliorating the condition of the helpless poor. (Loud cheers.) It was high time they made their voices heard. There were bills introduced into parliament to restrict their business; he might allude especially to the sale of poisons. (Hear, hear.) He would ask, who was there better able to retail poisons than chemists? He thought that the reply of the Secretary of State to the deputation from the Pharmaceutical Society upon the subject, that it represented so small a portion of the chemists and druggists that he could pay no attention to it, should convince them of the absolute necessity of union and combined action. (Cheers.) One great and important point seemed to have been lost sight of in the matter of restricting the sale of poisons, namely, —that not a single case had occurred from ignorance, but from carelessness, and, therefore, amenable to the law. It was impossible, even if a man held a diploma, to make him a careful man. It was more from the want of order that accidents had arisen, and every one who studied his own interest, would take that duty upon himself, and see that all poisons were carefully labelled, so that no accident could possibly occur. They had a right to resist to the utmost any attempt on the part of the legislature to deprive them of the privilege of medicating for the poor, which they had enjoyed time out of mind. (Cheers.) He was glad to have an opportunity of expressing to the proprietor of the *Chemist and Druggist* the grateful acknowledgment of the promoters of this important movement, of his great kindness in allowing them the use of his journal as a means of communication with the trade. Indeed, he thought they were deeply indebted to him. (Loud cheers.) But a few weeks ago two or three words appeared in that journal, intimating that a Society was about to be formed; and they now found at that meeting that it was actually commencing with no less than 700 members. These two or three words would have the same effect as those two memorable words which appeared in the *Times*,—"Riflemen, form!" (Hear, hear.) There had been a suspicion abroad, that because this Society had originated in that journal, that its proprietor must be at the bottom of it. But that idea was wholly groundless—if for no other reason—because the Society was expressly for chemists and druggists. It was through the proprietor's kindness that they had had an opportunity of using his journal, but it did not follow that he would derive any advantage from the Society when formed. The members of this Society to be benefited were emphatically chemists and druggists, and, therefore, he said that the greatest credit, and their warmest thanks were due to the proprietor of the journal, from the whole trade, for the disinterested and efficient aid he had rendered in originating this Society. (Loud cheers.) Those who enrolled themselves upon the committee as volunteers, that day would unfurl the banners of the Society, upon which were emblazoned, "We are not for aggression, but for self defence." (Hear.) And with such a motto, who could deny their privilege to combine? They wished to be a "Peace Society," but they wanted to be armed. (Hear.) The formation of a benevolent fund was by no means among the least important objects connected with that Society, and as an earnest of what they might hope for from those whom Providence had blessed with the means, he was happy to inform them that Messrs. Morgan Brothers would subscribe 100*l.* to that fund. (Loud cheers.) After a long time of toil and trouble, the chemist was often found with but little to depend upon. Therefore, it was hoped when their Society had been formed a sufficient time, their funds would afford some relief to the aged and infirm. Was there any one who could say that, with such intentions, they ought not to be successful? (Hear.) They were now assembled at a public meeting, whence it would go forth to the world, that at last the chemists and druggists were beginning to exert themselves on their own behalf, and to form a society which would soon prove an established

fact,—a noble institution whose aim and means would be chiefly directed in aid of the unfortunate poor amongst them. (Loud cheers.)

Mr. ANDERSON (of Duke-street, Manchester-square), in seconding the resolution, said, he was sure the meeting would not think him obtrusive in any way in coming forward to second a resolution, having for its object the union of such a vast un-united body of Englishmen as they undoubtedly were. There was, no doubt, a great amount of jealousy, but at the same time he was sure that all chemists and druggists recognised Mr. Jacob Bell as their worthy and lamented friend, who had entered the field when it was full of thorns and thistles; now they were looked upon with more respect by their neighbours, and not merely as the twopenny-halfpenny dealers in salts and senna that they used to be. (Laughter.) And he was sure that as this Society progressed they would become an united and a more enlightened body. But whilst pursuing an independent course, the one Society seeking to elevate, the other to unite and strengthen their body, he should be delighted to see a cordial feeling between them, and he sincerely hoped the Pharmaceutical Society would go hand in hand with them, and the best thing that Society could do would be to send down a donation, to show that they had no jealous feelings towards the United Society of Chemists and Druggists. (Hear, hear.)

The resolution was then put, and carried unanimously.

Mr. MORGAN (of Bow-lane), in moving the next resolution, stated, that the worthy Alderman in the chair, as also Mr. Wade and Mr. Anderson, had so fully elucidated the subject that there was little left for him to add, further than to read the resolution that he had been requested to propose. It was that the objects of the Society be as follows:—

1stly.—The establishment of a Benevolent Fund, for the assistance of members in sickness, old age, and death.

2ndly.—To carry out, by district meetings and a combined action, any improvement that may be deemed necessary for the welfare of the trade, such as early and Sunday closing, or any other arrangement that may be of advantage.

3rdly.—To watch the progress, support or oppose any legislative enactment that may affect the interests of the chemists and druggists as a trading community.

4thly.—To enable members to have an analysis of any article by an able analyst, and any legal questions answered free of cost.

5thly.—To keep a registry of the transfer of business, of required partnerships, and situations for assistants, &c., and to be the general recipient and exponent of any trade requirement.

6thly.—To establish a rudimentary school for members' children, and a club room for the use of members.

With regard to the benevolent fund, that was an object which required no advocacy, for it must be patent to all that it would, of necessity, be a great boon. (Cheers.) Therefore, the only question to be discussed upon that point was, how to form it, and what to do with it? His own idea was (and he believed he was supported in it by many others), that when sufficient money had been subscribed, it should be funded, not for the general purposes of the Association, but exclusively for the assistance of members in sickness, old age, and death; and that even then the principal should remain untouched, the interest only being employed. (Hear, hear.) The parties entitled to the benefits of the Society would be chemists and druggists proper; for although the Society would be very glad to receive all they could get from outsiders, like himself, who were connected with chemists and druggists by business ties, he trusted such subscribers would not look forward to anything further than the satisfaction arising from the feeling that "it is much more pleasurable to give than to receive." (Cheers.) With regard to early and Sunday closing, all he could say was, that if they made up their minds unitedly to carry that point, it was done. He quite agreed with their worthy chairman, that concentrated labour was in every respect much better than diluted labour. His firm (Mr. Morgan's) gave employment to a large number of people, and had reduced their time two hours per day, and given them the half of Saturday, which, he was happy to add, had resulted in more work being done in less time, those employed working with greater energy and zeal, because they felt their interests were being consulted. In connection with the two next points, he thought there could be no doubt that it would be extremely advantageous to the members if they had competent authorities to which they could refer all questions of analysis, or of a legal character, free of cost. He was happy to inform the meeting that although the first proposal would be attended with some difficulty, Mr. Evans, a highly respectable solicitor, the son of one of the most respected members of the trade, had volunteered his services to carry out the second. (Hear, hear.) With regard to the next point, the keeping of a registry of the transfer of businesses, &c., that embodied one of the requirements of the trade, and would lead among other advantages to the prevention of fraud upon its members. A case occurred a short time since in Paris, where a woman made a handsome living by visiting chemists' shops and asking for some article which was generally kept out of the shop, such as aerated water, and as soon as the assistant left the shop she followed his example, and decamped, not, of course, empty handed. She carried on that career till she became quite notorious. Had an organisation been established, similar to that which was

now to be formed, such a system of frauds could have been exposed and prevented. With regard to the subscription, although 5*s.* appeared a small sum, supposing they got 3,000 subscribers, they would realize 750*l.*, with which they could do a great deal; and he had no doubt they would receive considerable sums as donations, &c.; of course the more the better. (Hear, hear.) Chemists and druggists were not, as a rule, rich men, simply because they had not the power of accumulating riches, and therefore he thought they ought not to put it too prominently forward that they expected employers to give a guinea, or half-a-guinea. He said, let them give what they chose. For his own part, he hoped that those who subscribed 5*s.* would enjoy the same privileges, and be considered as fervent supporters of the Society as those who gave 100 guineas. (Hear, hear.)

Mr. Linder (of the Strand) had great pleasure in seconding the resolution, which had been so amplified by Mr. Morgan as to render it needless for him to make any observations upon it.

The resolution was then put, and carried unanimously, amid loud cheers.

Mr. D'Aubney (of Shepherdess-walk, City-road) then proposed that the names upon the printed list produced should form a General Committee, with power to add to their number, and to elect from themselves an Executive. He felt deeply impressed with the importance of this resolution, for their progress greatly depended upon the men who did their work. If they were intelligent, persevering, self-denying men, their Society could not fail to prosper. From what he knew of several gentlemen upon the list, he trusted the Executive Committee (to be selected from them) would prove to be the right men in the right place. (Hear, hear.) He thought it only just to the Pharmaceutical Society to admit the success with which they combated the Poison Bill; and if a society representing only a section of the trade could do that, what might they not reasonably expect from a Society like their own, which would represent the interests, and express the sentiments, and moral determination of thousands. (Hear.) A Society whose "name is legion" is omnipotent for good when united in a righteous cause. (Loud cheers.) They all knew how, during the last fifty years, their privileges had been curtailed. Take from the past an omen, and a warning for the future: the snake might be scotched, but it was not killed. The enemy was only waiting for a favourable opportunity, and he hoped his warning voice would be heard through the trade, *Chemists and Druggists unite!* The few remaining privileges upon which their existence as tradesmen depended might be taken from them by legislative injustice, therefore he urged them to be true to themselves and to one another—to be vigilant, united, and strong for action, that the day of battle which was coming might find them victors! (Loud cheers.)

Mr. Ablitt (of Hackney) seconded the proposition, and in doing so, urged the necessity for combined action; whilst chemists and druggists were a large and educated class, their influence for good was neutralized by the want of union amongst them. The bakers, the tailors, the grocers, and the drapers, the butchers, and the publicans, could all proudly point to their benevolent institutions; the grocers, for instance, had an institution entirely supported by voluntary contributions. They were yearly paying 1400*l.* in aid of the widows and orphans, and the poor amongst them, chiefly from a funded property of 18,000*l.* (Hear.) But it was a standing reproach of chemists and druggists, that whilst they had less opportunity than others to secure a competency, they lacked the unity of spirit and action which enabled other tradesmen to provide liberally for the relief of those whose lot might be cast upon the darker contingencies of life. Now what the grocers could do, *they could do and would do.* (Cheers.) He looked upon that day as their birthday, when they met together in the spirit of brotherhood to commence a Society which, like the schoolboy's accumulated snowball, would increase by individual exertion, and soon prove (not like the snowball—a perishing) but a lasting monument of their benevolent consideration for their poorer brethren. (Loud cheers.)

Mr. Cook (of Hoxton) suggested that a preliminary committee should be appointed of some five or six members, who should form a list to be submitted to the next Meeting, and that then the committee should be elected.

The Chairman, who had had a somewhat extended experience in public business, said that small committees were generally looked upon with some degree of suspicion; and they were not generally so successful as when upon a larger basis.

This resolution was then put, and also carried unanimously.

Mr. Morgan said, that as the business for which the meeting had been convened was now concluded, they had to recollect that upon that occasion the chair was kindly occupied by a member of the City House of Peers: indeed, the *only* chemist and druggist that held a public position; and he was sure they all felt deeply indebted to that gentleman for having come forward in the van to assist in the consummation of so desirable an object as the establishment of an United Society of Chemists and Druggists. Therefore, he had much pleasure in proposing—"That the best thanks of the meeting be accorded to Mr. Alderman Dakin."

The resolution having been duly seconded by Mr. Crotch, of Edgware-road, was carried with applause.

The Chairman having acknowledged the compliment in a few appropriate remarks,

The proceedings terminated in a large addition to the members of the Society from the body of the Meeting.

[We regret that for want of space we are unable to publish the list of new members.]